PREFACE.

In the Weekly Weather Report for 1889 there have been no additions to the Tables, but the area covered by the Charts has been enlarged so as to embrace nearly the whole of Europe and the greater part of the Mediterranean. The general arrangement of the daily Remarks has also been modified somewhat, so as to bring them into agreement with the enlarged maps. By these means the size of the Report has been increased from four to six pages. The Monthly Summary of the observations made at the stations included in the Daily and Weekly Weather Reports again appears as a supplement.

The general arrangement of the Report is as follows:—

LIST OF DISTRICTS.

For the purposes of this Report the United Kingdom is divided into eleven Districts, which are shown on the accompanying map, distinguished by the numbers 0 to 10. The positions of the stations supplying information are marked on the map by black dots, and their names are given in the following list, arranged under the districts to which they belong:—

METEOROLOGICAL DISTRICTS.

0. SCOTLAND, N.—Sumburgh Head, Stornoway, Wick, Lairg, Glen Carron, Fort Augustus.
1. SCOTLAND, E.—Nairn, Aberdeen, Braemar, Ochtertyre, Leith, Marchmont.
2. ENGLAND, N.E.—Alnwick Castle, Durham, Shields, Scarborough, York, Spurn Head.
3. ENGLAND, E.—Hillington, Yarmouth, Geldeston, Cambridge, Rothamsted, Ingatestone.
4. MIDLAND COUNTIES.—Bawtry, Loughborough, Cheadle, Churchstoke, Hereford, Cirencester Oxford.
5. ENGLAND, S.—London, Strathfield Turgiss, Dungeness, Hastings (St. Leonard's), Southampton, Hurst Castle, Stowell.
6. SCOTLAND, W.—Laudale (Loch Sunart), Glasgow, Ardrossan, Glenlee, Douglas (Isle of Man).
7. ENGLAND, N.W.—Newton Reigny (Penrith), Barrow-in-Furness, Stonyhurst, Blackpool, Manchester, Liverpool Observatory (Bidston), Llandudno, Holyhead.
8. ENGLAND, S.W.—Llandovery, Pembroke, Arlington (N. Devon), Cullompton, Falmouth, Plymouth, Prawle Point.
9. IRELAND, N.—Malin Head, Londonderry, Mullaghmore, Belmullet, Markree Castle, Brookeborough, Armagh, Donaghadee, Edgeworthstown.
10. IRELAND, S.—Dublin, Parsonstown, Kilkenny, Waterford, Roche's Point, Valencia, Killarney, Foynes.

Besides these stations there are two stations in the Channel Islands, viz., Scilly (St. Mary's), and Jersey (St. Aubins), which cannot be conveniently placed in any of the Districts.

TEMPERATURE.

The Summary on the first page of each Report gives for each week and District the absolute *maximum* and *minimum*, the averages of both the daily extremes, the daily mean, and its difference from the average of the corresponding period, as derived from observations of the 20 years 1861–80 together with the values for "Accumulated" temperature above and below 42° F.

Daily Mean Temperature.

The daily mean Temperature shown in the Tables is calculated from the mean between the daily maxima and minima, due regard being had for the varying relation found to subsist, from month to month, between the true mean temperature of the day derived from 24 hourly observations, and the means of the daily maxima and minima for a series of years, as recorded at Greenwich and at the self-registering Observatories of the Meteorological Council.

The approximate Mean Daily Temperature for any week is found by multiplying the *difference* between the means of the seven observed maxima and minima by the proper coefficient for the month, as shown in the following Table, and adding the product to the observed minimum:—

Months.	Coefficient.
January. December.	0·520
February. November.	0·500
March. October.	0·485
April. September.	0·476
May. August.	0·470
June. July.	0·465

Example:

The mean maximum temperature for a week in December being	48°·1
The mean minimum	39·3
The difference is	8·8

This difference 8·8 × ·520 (the coefficient for December) = 4·6.

This product when added to the mean minimum, 39·3, gives 43°·9, the required mean daily temperature of the week.

Accumulated Temperature.

The Tables of Accumulated Temperature are designed to give persons engaged in agriculture better means of estimating the manner in which vegetation is affected by temperature than that afforded by the more usual methods of treating the readings of the thermometer. They show for each week, and for the whole period from the commencement of the year, the weekly and progressive values, respectively, of the combined amount and duration of the excess or defect of the air temperature, above or below a suitably fixed standard, or *base temperature*. The base adopted is 42° F., as being nearly equivalent to 6° C. This has been considered by Continental writers on these subjects to be the critical value, the temperature above which is mainly effectual in starting and maintaining the growth, and in completing the ripening, of agricultural crops in a European climate. This base is also convenient as being 10° F. above the freezing point on the Fahrenheit scale.

61924. 350.—3/90. Wt. 36.

The Accumulated Temperature is expressed in Day-degrees; a Day-degree signifying 1° F. of excess or defect of temperature, above or below 42°F., continued for 24 hours; or any other number of degrees for an inversely proportional number of hours.

When the temperature during any period remains either wholly above or below the base temperature, the difference between the base and the mean temperature gives the correct accumulated temperature. In other cases this difference gives an approximate value for the accumulated temperature, which does not depart greatly from the truth, the deviation depending on the greater or less extent of the variations of the temperature above or below the base. Further, since the mean between the maximum and minimum of any day is nearly equal to the mean temperature of the day, the difference of the mean of the maximum and minimum from the base will also give, directly, an approximation to the accumulated temperature for the day.

The following rules, however, supply a still closer approximation to the true values sought, and they have been adopted for the preparation of the Tables in the Report. They may be applied to any other base temperature as well as to 42° F., with the slight modification of the numerical coefficients mentioned below.

RULES for computing, for a WEEKLY PERIOD, from the observed MAXIMA and MINIMA, the ACCUMULATED TEMPERATURE above or below 42° F.

1. Obtain the mean temperature, from the means of the seven observed maxima and minima, in the manner already described for daily values.

2. In obtaining the accumulated temperature four cases may occur, to which the following rules will apply:—

Conditions of Temperature.	To obtain the daily Accumulated Temperature.	
	Above 42° F.	Below 42° F.
If the minimum is *above* 42° F. or *equal* to 42° F. -	Subtract 42° F. from the mean.	There is none.
If the minimum is *below* 42° F., but the mean for the day is *above* 42° F.	From the difference between the mean for the day and the minimum deduct the accumulated temperature below 42° F., calculated as stated in the next column.	The required quantity is the excess of 42° F. over the minimum, multiplied by the coefficient 0·4.
If the mean for the day is *below* 42° F., but the maximum is *above* 42° F.	The required quantity is the excess of the maximum over 42° F., multiplied by the co-efficient 0·4.	From the difference between the mean for the day and the minimum deduct the accumulated temperature above 42° F., calculated as stated in the preceding column.
If the maximum is *below* 42° F., or *equal* to 42° F. -	There is none.	Subtract the mean from 42° F.

In each of the above cases the result will be the average daily value, and must be multiplied by 7 in order to obtain the value for the whole week.

The coefficient varies with the duration of the period, and also with the base temperature.

The coefficient given above, in Rules 2 and 3, is for a weekly period, and for the base temperature 42° F. The following are its values for other base temperatures, viz., for 32° F., 0·4; for 52° F., 0·33; for 62° F., 0·25.

A full explanation of the principles on which these rules are based will be found in Appendix II. to the Quarterly Weather Report for 1878.

RAINFALL.

The Summary gives for each week and each District the number of rainy days, and the total fall of rain, as well as the progressive values reckoned from the commencement of the year, and the difference between these amounts and the means for the corresponding week in the 20 years 1866–85.

BRIGHT SUNSHINE.

The Summary gives for each week and each District the numbers of hours of sunshine recorded, and the per-centage of that time to the whole time during which the sun is above the horizon; also the progressive values reckoned from the commencement of the year, together with the difference between them and the mean for the corresponding period in the five years 1881 to 1885.

SUPPLEMENT AND APPENDICES.

Supplement.—Consists of twelve Monthly Summaries of the Observations made at the Stations included in the Daily and Weekly Weather Reports. Each Summary is illustrated by a lithographed plate.

Appendix I.—This contains (1) Summaries for each Quarter and for the whole year, of the Temperature and Rainfall records for each District from 1866 to 1889, and (2) Tables giving for each district the monthly values for Rainfall, Accumulated Temperature (above and below 42° F.), and Bright Sunshine, as well as the progressive values for each from the commencement of the year, in continuation of the values given in Appendix I. for 1888.

Appendix II. gives for year 1889, and for each District, the weekly and progressive values for Rainy days, Amount of Rainfall, Accumulated Temperature (above and below 42° F.), and Bright Sunshine, in continuation of the values for the years 1878–88 printed in Appendix II. to the Weekly Weather Report for 1888.

Appendix III. gives for each District, during the twelve years 1878–89, the mean aggregate values from the beginning of the year to the end of each week in the year for the following elements: Days of Rain, Amount of Rainfall, and Accumulated Heat (above and below 42° F.); also for the nine years 1881–89 the corresponding values for Bright Sunshine (both the Number of Hours recorded, and the per-centages of possible duration). These are in continuation of the values published in Appendix III. of the Report for 1888.

Appendix IV. gives for each District—for the twelve years 1878–89—the Mean Temperature of the Air for each Week in the year. This Appendix is in continuation of the values given in Appendix IV. for 1888.

Tables showing for each degree of Latitude from 49° N. to 58° N., and for each Weekly and Monthly period, the total number of hours during which the Sun is above the Horizon, together with their Reciprocals, are given in the Preface to Vol. I. of this Series.

TABLE SHOWING THE REPORTS RECEIVED TOO LATE FOR INSERTION IN THEIR PROPER PLACES.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.)								Rainfall.			Bright Sunshine.	
		Highest observed.	Lowest observed.	Averages for the Week.			Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day Degrees).		Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Number of Hours recorded.	Per-centage of possible duration.
				Of Highest each day.	Of Lowest each day.	For whole of the day.		Above 42° F.	Below 42° F.					
Week ended—		°	°	°	°	°	°				Inches.	Inches.		
December 23rd, 1889	Llandudno	56	38	51·7	42·3	47·2	+ 5·0	36	0	6	1·69	+0·95	2·3	5
„ 30th „	Oswaldkirk	—	—	—	—	—	—	—	—	—	—	—	10·1	20
„ „ „	Llandudno	54	29	45·6	37·6	41·8	− 0·5	10	19	6	—	−0·72	6·8	13

The values for the earlier weeks have already appeared on the third page of the different weekly reports.

ERRATA.—Appendix I. Quarterly Summary, Weekly Weather Report, Third Quarter, 1889.

Page 5.	Districts.		
	2.	Means (Wheat Districts.)	Means (British Islands).
	Inches.	Inches.	Inches.
Rainfall, 1889, should read	7·7	8·0	9·2
Means, 24 years, 1866–89, should read	7·8	unaltered.	unaltered.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VI. No. 1.] *Third Series.* WEEK ENDING MONDAY, 7TH JANUARY, 1889. [*Price* 1*d.* [*Annual subscription, post paid,* £1 1*s.* 2*d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 6.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	51	26	46·1	37·2	41·8	3 above.	11	+ 6	21	−14	11	+ 6	21	−12
	1. SCOTLAND, EAST	50	19	43·5	31·4	37·7	1 above.	4	− 2	39	− 5	4	0	39	− 2
	2. ENGLAND, N.E.	45	23	38·9	30·4	34·8	3 below.	0	− 6	59	+ 9	0	− 7	50	+21
	3. ENGLAND, EAST	45	14	34·2	23·2	28·9	9 below.	0	− 7	92	+48	0	−10	92	+62
	4. MIDLAND COUNTIES	41	14	34·0	23·3	28·9	9 below.	0	− 9	92	+48	0	−12	92	+63
	5. ENGLAND, SOUTH	46	19	37·7	27·3	32·7	7 below.	0	−10	65	+30	0	−13	65	+47
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	49	23	43·9	34·1	39·2	0 (average).	5	− 3	30	− 5	5	− 4	30	+ 3
	7. ENGLAND, N.W.	47	22	40·0	31·6	33·0	4 below.	0	− 8	42	+ 7	0	−11	42	+19
	8. ENGLAND, S.W.	49	17	41·5	31·1	35·5	5 below.	0	−16	39	+17	0	−20	39	+29
	9. IRELAND, NORTH	49	21	43·1	32·4	38·0	3 below.	3	− 9	36	+ 6	3	−12	36	+17
	10. IRELAND, SOUTH	51	21	43·6	33·2	38·6	3 below.	4	−15	33	+10	4	−19	33	+22
	— CHANNEL ISLANDS	52	28	47·1	38·4	42·9	2 below.	21	0	10	− 1	21	− 6	10	+ 5

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 6.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 3, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	4	2	6 less.	4	−1	0·2	−0·6	7	16	7	+ 2	16	+ 4
	1. SCOTLAND, EAST	1	1	6 less.	1	−2	0·1	−0·6	13	28	13	+ 2	28	+ 4
	2. ENGLAND, N.E.	1	less than ½	5 less.	1	−2	0·0	−0·5	7	13	7	0	13	0
	3. ENGLAND, EAST	0	less than ½	5 less.	0	−4	0·0	−0·5	9	17	9	− 1	16	− 2
	4. MIDLAND COUNTIES	0	less than ½	6 less.	0	−4	0·0	−0·6	7	13	7	− 2	13	− 4
	5. ENGLAND, SOUTH	1	less than ½	6 less.	1	−3	0·0	−0·6	10	18	10	0	18	+ 1
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	3	3	9 less.	3	−1	0·3	−0·9	6	12	6	0	12	0
	7. ENGLAND, N.W.	1	less than ½	7 less.	1	−3	0·0	−0·8	8	14	8	0	14	0
	8. ENGLAND, S.W.	1	less than ½	10 less.	1	−4	0·0	−1·0	13	23	13	+ 1	23	+ 1
	9. IRELAND, NORTH	3	3	5 less.	3	−2	0·3	−0·5	10	19	10	− 1	19	− 2
	10. IRELAND, SOUTH	2	7	2 less.	2	−3	0·7	−0·2	15	28	15	+ 1	28	+ 1
	— CHANNEL ISLANDS	1	less than ½	9 less.	1	−4	0·0	−0·8	40	69	40	+23	69	+44

General Remarks.

Weather has been somewhat unsettled, with occasional falls of rain in the extreme west of Ireland and north of Scotland, but in all other parts of the Kingdom the conditions have been dry and quiet. Much fog has, however, been experienced over England, as well as at some of the Irish and Scotch stations.

Temperature has been above the mean in the north and east of Scotland, and equal to it in "Scotland, W.", but below it in all other places; over southern, central, and eastern England the deficit has been as great as 7° to 9°. The highest of the maxima (which were recorded on irregular dates) varied from 41° in the "Midland Counties" to 51° in "Scotland, N." and "Ireland, S.", and to 52° in the "Channel Islands". During the latter part of the period the daily maxima over south-eastern and central England were generally below 32°; at Oxford on the 5th the thermometer did not rise above 24°. The absolute minima were registered either on the 6th or 7th in most parts of England and on irregular dates over Ireland and Scotland. In "England, E." and the "Midland Counties" the thermometer fell to 14°, in "England, S.W." to 17°, and in "England, S." and "Scotland, E." to 19°, while in other districts the minima varied from 21° over the inland parts of Ireland to 26° in "Scotland, N." and to 28° in the "Channel Islands".

Rainfall has been less than the mean in all districts. Over the greater part of England no rain fell, but in some cases measurable amounts of water were deposited in the gauges by the fog.

Bright sunshine has been very little prevalent except at Jersey; at Stonyhurst, Blackpool, and in London it was altogether absent. The percentage of the possible amount of duration ranged from 12 in "Scotland, W." to 28 in "Scotland, E." and to 69 in the "Channel Islands".

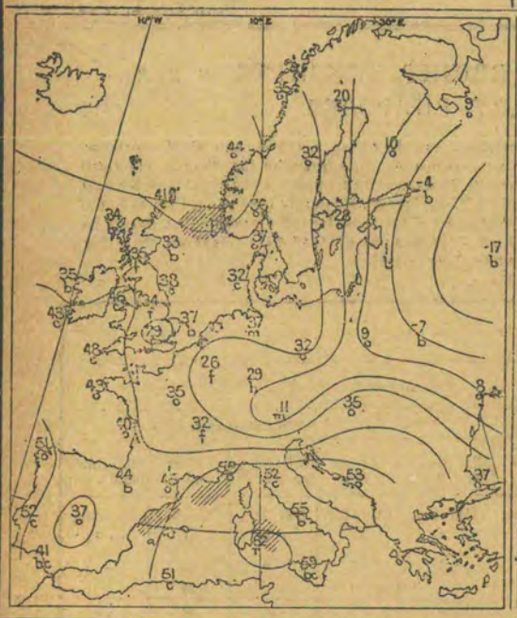
Barometer and Wind.—At the commencement of the period the barometer was high both over the eastern and western parts of our area, and low in the north and extreme south, the winds being moderate from the Westward in the north and light and variable elsewhere. As the week progressed the high pressure areas coalesced and formed a large anticyclonic band stretching from Russia to the south of Ireland. To the northward of our Islands and over Scandinavia depressions travelled eastwards, producing strong Westerly winds or gales. Towards the end of the period the anticyclone gradually gave way, and some important depressions approached our western and north-western coasts from the Atlantic. The wind over our Islands consequently backed to the Southward and blew strongly on all our western coasts.

A 57052. 350.—1/89. Wt. 37. E. & S.

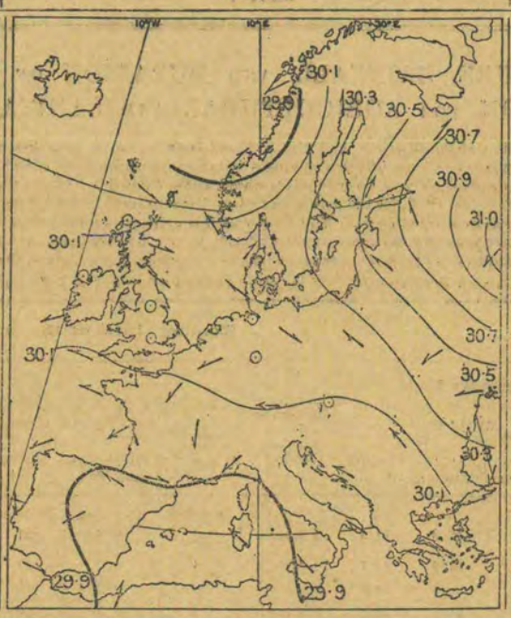
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 1st January.

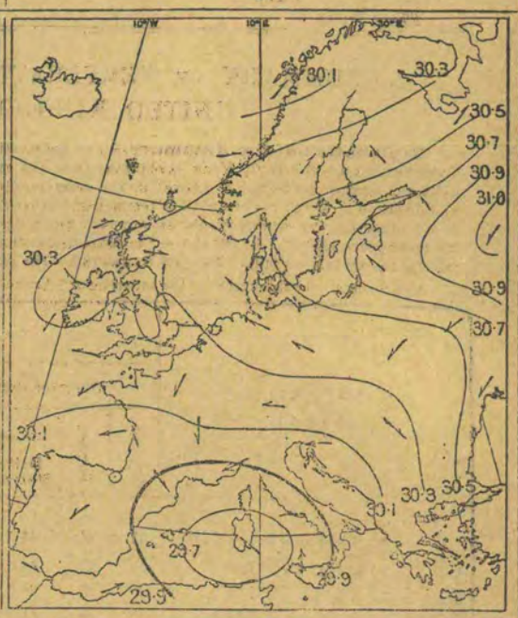
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine in the north of our Islands, as well as at most of the Spanish, Italian, and Russian stations, foggy over England and Central Ireland, cloudy elsewhere. Heavy rain falling at the Mediterranean stations during day.

Temperature very low (zero to −17° F.) over Russia, considerably below the freezing point over Austria, and slightly below over the inland parts of England and Ireland. Above 55° over the Mediterranean, the highest reading of all being 62°, at Cagliari.

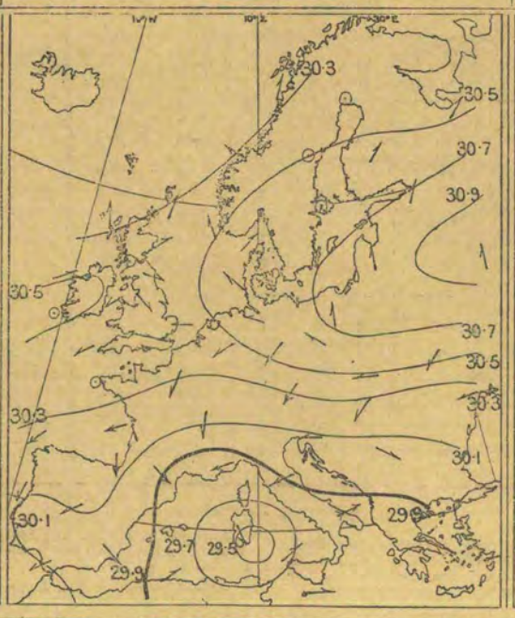
Wind South-Easterly over the Baltic, Southerly over Scandinavia and Denmark. Light Westerly in the north of our Islands. Easterly or North-Easterly over France, the south of our Islands, and the greater part of Southern Europe, but Westerly or South-Westerly in Algeria. Southerly gales setting in later over Sicily and at Tunis.

Barometer very high (31·0 ins. and upwards) over Central Russia, high (30·2 ins. and upwards) over the west of Ireland; low (29·8 ins. and less) in a depression lying off the west of Norway, and also in another disturbance situated between the Sardinian and Tunisian coasts. Former system afterwards travelling away north-eastwards; latter moving slowly in similar direction, and becoming deeper.

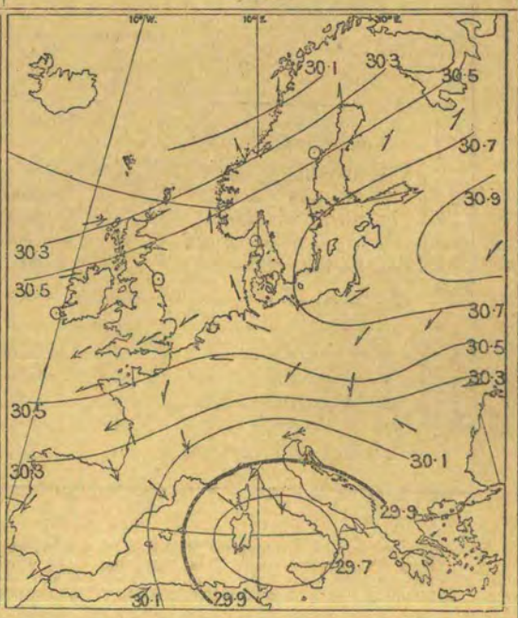
Wednesday, 2nd January.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather foggy over England, central Ireland, and the north of Sweden, dull over the greater part of Southern Europe, with rain in Italy and snow in the south of Russia. Fine in Spain, France, and the north of our Islands, as well as over Central Europe. Heavy rain falling later at some of the Italian and Algerian stations.

Temperature still very low (zero to 13° Fahr.) over Russia, considerably below the freezing point over the whole of Northern and Central Russia, and slightly below over the inland part of the United Kingdom. Above 56° at some of the Mediterranean stations, highest of all being 61° at Malta. Decided rise taking place later in the extreme west and north of the United Kingdom.

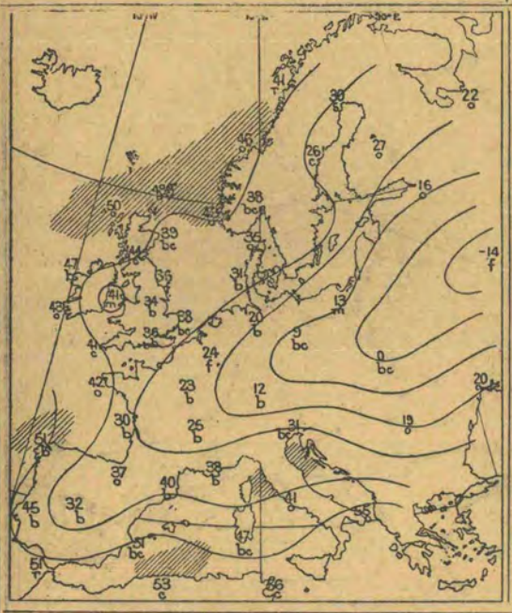
Wind light or moderate from the southward over the greater part of Northern Europe, Easterly or North-Easterly in most other localities. Decided cyclonic circulation over Mediterranean. Easterly wind strong over Northern Italy and the Riveira, and sea rough in many localities.

Barometer still very high (30·9 ins. and upwards) over Central Russia, and high (30·5 ins. and upwards) in Ireland. Large area of comparatively low readings lying to the northward of our Islands, and well marked depression with readings below 29·5 ins. off the Sardinian coasts. Gradients in far north (for South-Westerly winds) increasing somewhat later.

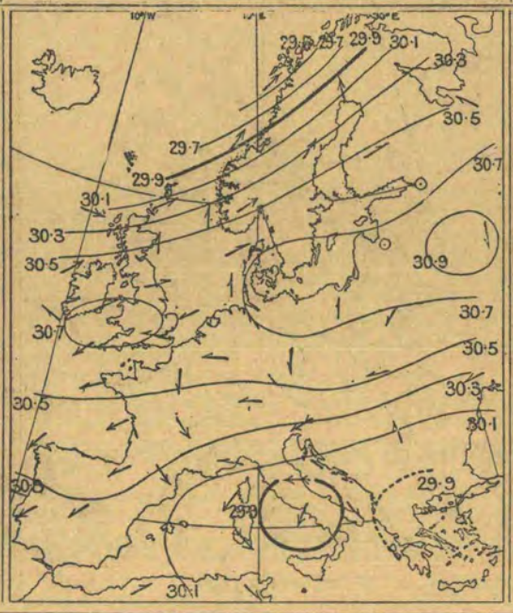
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 3rd January.

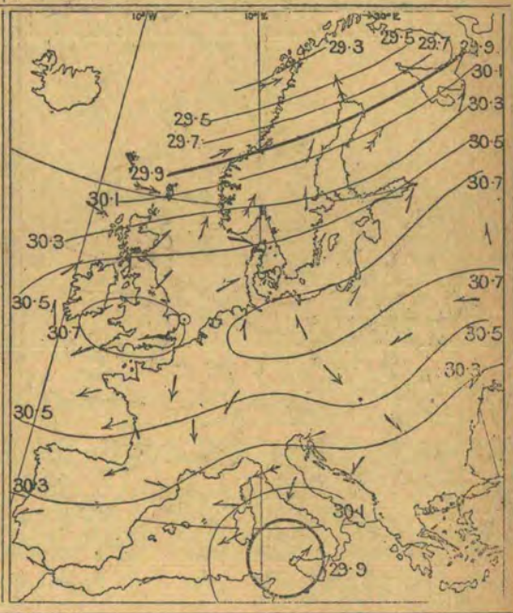
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine and cold over Russia, Central Europe and France; very foggy over England and the south of Ireland, dull and unsettled over the eastern parts of the Mediterranean and also over Norway and the northern and north-western parts of the British Islands. Heavy rain at Christiansund during day, and slight showers at some of the Scotch stations.

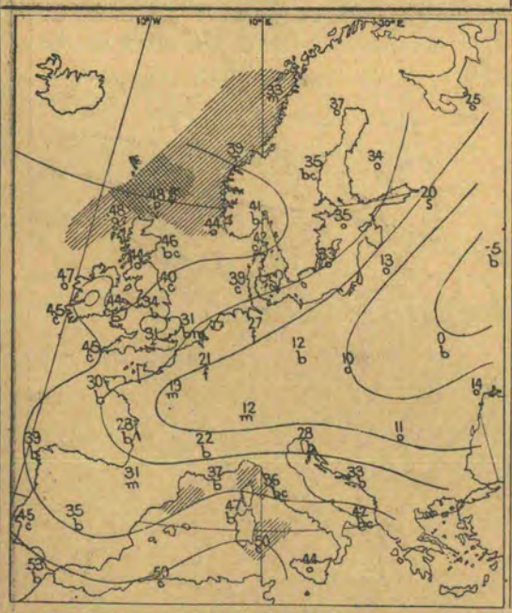
Temperature still very low (zero to −14° Faht.) at the Russian stations, and considerably below the freezing point over Germany, Central France, and some parts of the British Islands. High for the time of year (40° to 50°) over Norway, Scotland, and the north of Ireland. Below 50° over the Mediterranean generally, and as low as 31° at Trieste, 36° at Florence, and 38° at Nice.

Wind very light and variable at the Russian, German, Central French and English stations; North-Easterly over the English Channel, the Bay of Biscay, and Spain. Cyclonic circulation over Mediterranean (Easterly gales over northern Adriatic, and North-Westerly gale at Cagliari, with heavy sea). Strong South-Westerly current of wind spreading in over the western parts of Northern Europe from Atlantic, and blowing a gale at some exposed stations, with rough sea.

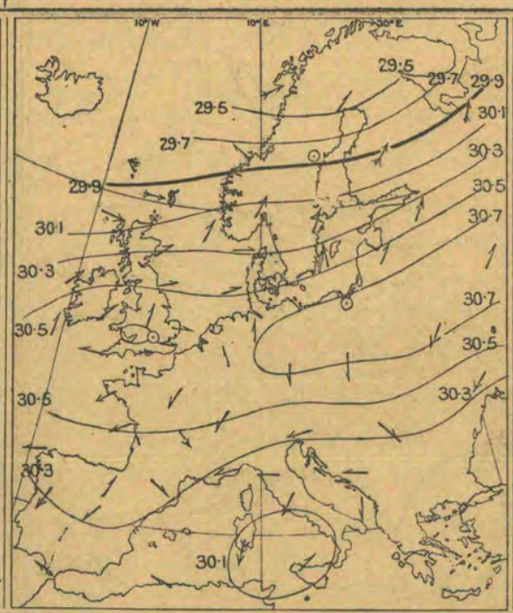
Barometer very high (30·7 ins. to 31·0 ins.) over Russia; varying from 30·6 ins. to 30·75 ins. over Ireland and England; rather below 30·7 ins. over the Netherlands. Readings decreasing to 29·5 ins. and less in extreme north of Norway and to 29·8 ins. and less in a depression lying over the Mediterranean somewhat to westward of Naples. Barometer falling in the north, rising slowly over Southern Europe. New low pressure system in north-west spreading southwards.

Friday, 4th January.

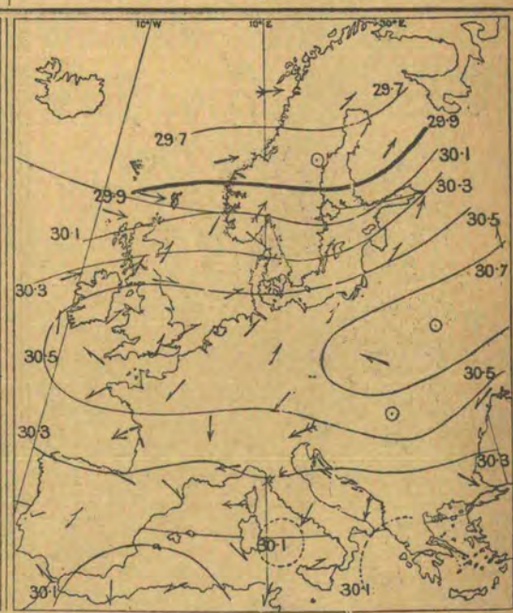
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather foggy over England and the Netherlands, and dull over the greater part of Northern Europe, with rain at Christiansund and Helsingfors; snow at St. Petersburg. Fine over all the more southern countries. Rain falling later in the extreme north of our Islands.

Temperature low (zero to −5° Faht.) over Central Russia, and considerably below the freezing point over the whole of Eastern and Central Europe, as well as in the inland parts of England and Ireland. High for the time of year (45° to 48°) in the north of Scotland. Thermometer reaching 50° at one or two of the Mediterranean stations.

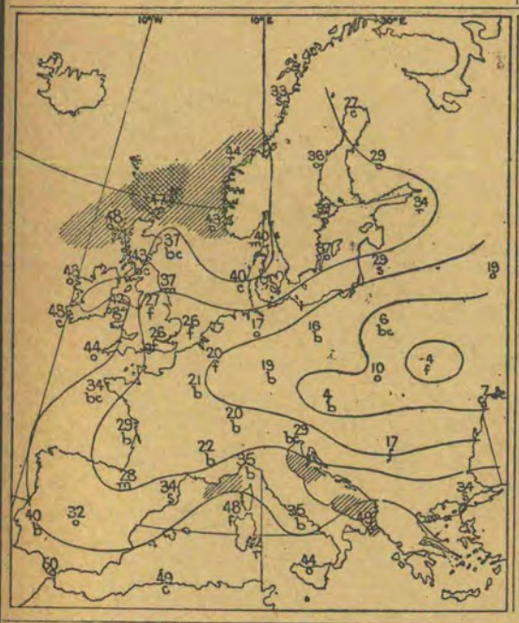
Wind strong Westerly or South-Westerly over the greater part of Northern Europe, with gales in Lapland, Finland, and the Shetlands. Easterly or North-Easterly in all the more southern countries; light or moderate in force in most places, but strong at some of the Italian stations. Subsequently increasing to a gale over the northern parts of Italy and the Adriatic.

Barometer highest (30·8 ins. and upwards) over Central Russia, but high (30·6 ins. and upwards) in a long band extending thence across Germany and the Netherlands to the southern parts of England and Ireland. Large depression, with readings below 29·5 ins., crossing Lapland; smaller and shallower disturbance, with readings below 30·1 ins., lying between the coasts of Italy and Sardinia. Latter system gradually filling up during day.

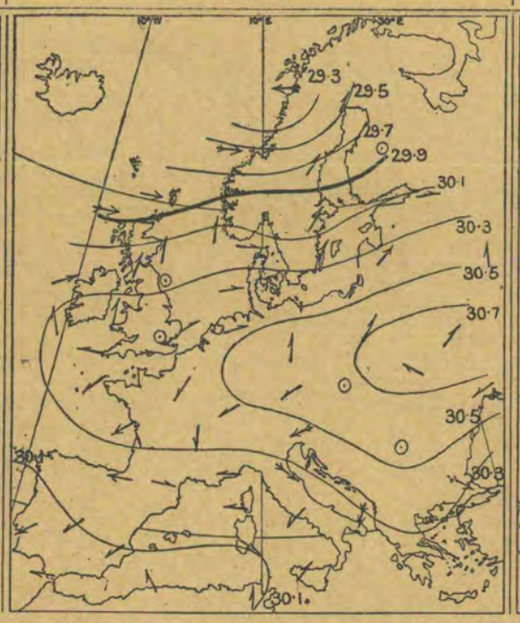
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 5th January.

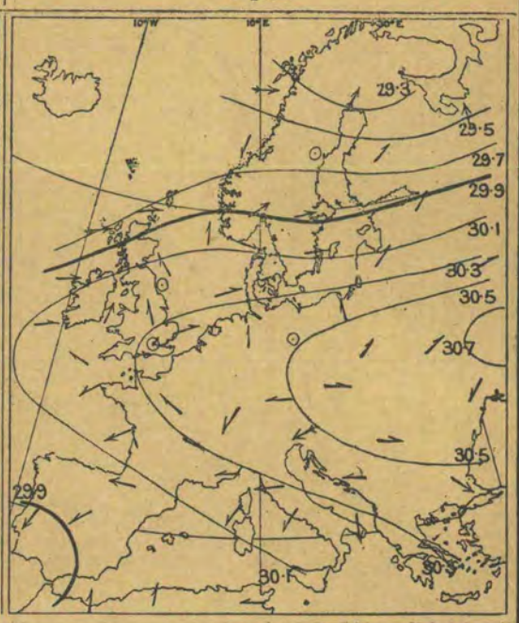
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather still foggy over England and the Netherlands. Rain falling at some of the Mediterranean stations, as well as at Christiansund, and snow at Bodö, Riga, and also at Perpignan. Sky clear in most other localities. Rain falling later in the extreme west and north of our Islands, and heavy snowstorms occurring in Spain.

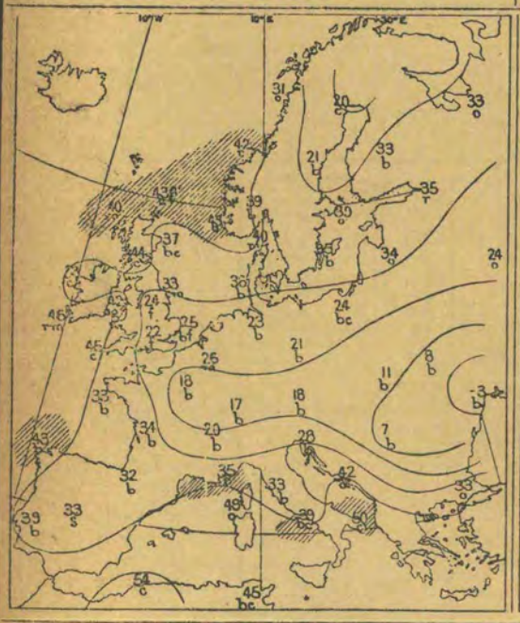
Temperature risen considerably over Northern and Central Russia, but still low (zero to −8° Fahr.) over the more southern parts of that country. Readings considerably below the freezing point over Central Europe generally, and also over Eastern and Central England. Temperature at Nice and Naples only 35°, but thermometer above 45° on the southern shores of the Mediterranean.

Wind South-Westerly or Westerly over Northern Europe, with gales in the Hebrides and west of Norway. Light and variable over Germany, Austria, the south of Russia, and the central parts of England. North-Easterly or Easterly over Italy, France, and Spain; Southerly on the coasts of Algeria. Subsequently increasing to a gale at some of the Spanish stations.

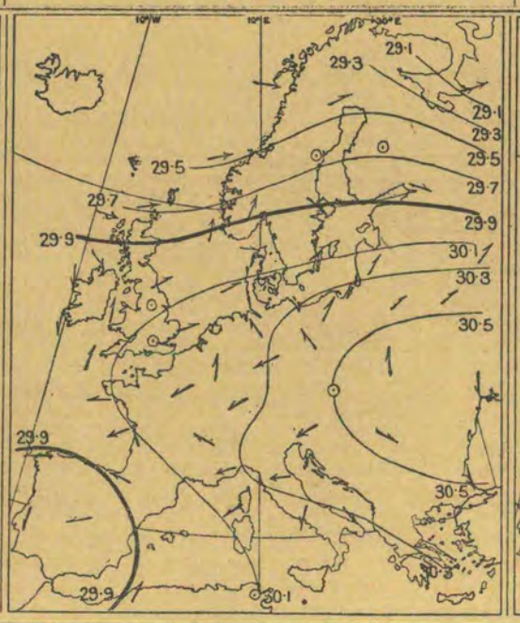
Barometer highest, 30·8 ins., at Kharkov; high, 30·4 ins. to 30·7 ins., over Austria, Germany, and England. Lowest, 29·2 ins., and less in a depression lying off the north-west of Norway; below 30·0 ins. in a large shallow area lying over Morocco and the south of Spain. General fall of barometer taking place later; Norwegian depression moving eastwards across Lapland.

Sunday, 6th January.

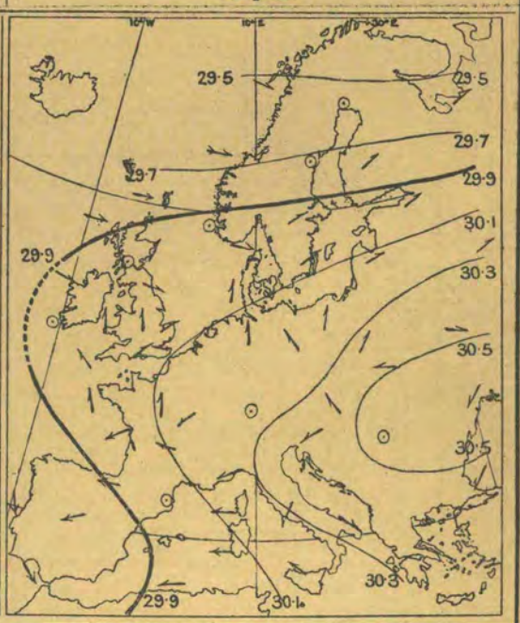
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather still foggy over England and the Netherlands; dull and rainy in the south of Ireland, as well as over the Gulf of Finland and the west of Norway; snow falling over Central Spain. Fine in nearly all other parts of Europe. Exceedingly heavy rain falling later over Spain and the south of France (largest amounts 3·0 ins. at Perpignan, 2·8 ins. at Cette, 2·5 ins. at Cape Bearn, and 1·7 ins. at San Fernando).

Temperature a little below zero in some parts of Southern Russia; considerably below the freezing point over Austria, Germany, and the central parts of France and Spain; low in Italy and the south of France (Nice 35°, Leghorn and Pesaro 33°, Rome 30°). Above 45° in the south-west of our Islands; above 50° in Algeria.

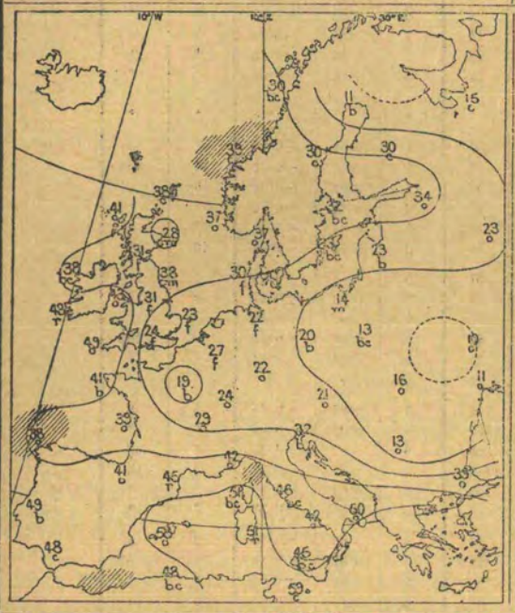
Wind Westerly in all the more northern countries, with a strong gale at Archangel; variable over the south of Russia; Easterly or North-Easterly over France, Spain, Italy, and the extreme south of England; Southerly in Algeria. Strong gale from the Eastward at Lesina, and moderate gales at Trieste and Leghorn.

Barometer highest, 30·6 ins. and upwards, over the south of Russia; lowest 29·1 ins. and less in a depression moving eastwards across the White Sea; low 29·8 ins. and less in a shallow disturbance lying over Morocco and the south of Spain. Fall taking place during day at all but the extreme northern stations, and Spanish depression moving slowly north-eastwards.

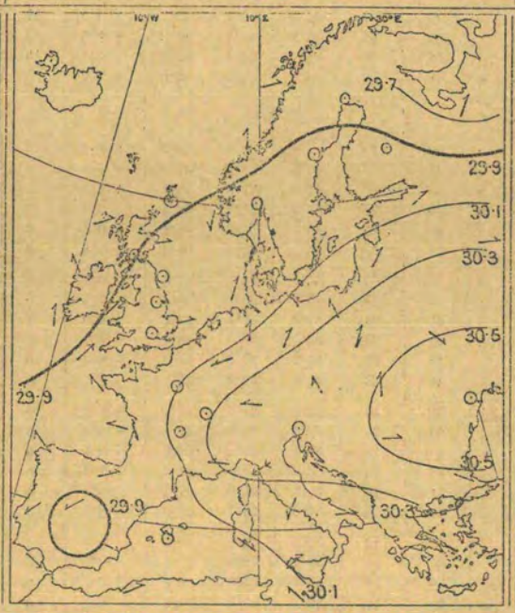
II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 7th January.

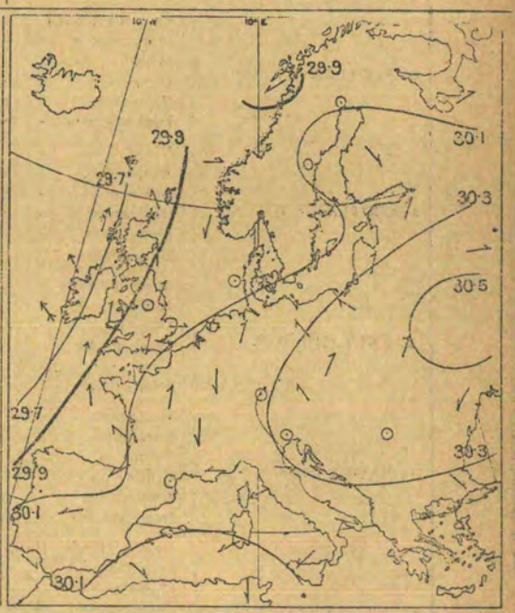
Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



6 p.m.



Weather still foggy over England and the Netherlands, and cloudy or overcast in most other countries, with rain in the south of Ireland and the extreme south of France, as well as in western Algeria. Weather fine at some of the Italian stations and also in Poland. Heavy rain falling later in Ireland, as well as in the south of France, and some parts of Spain; the largest amounts being 3·3 ins. at Cape Béarn, 1·1 ins. at Valencia Island, and 1·0 inch at Perpignan and Barcelona.

Temperature varying between 10° and 15° over Poland and the south of Russia, between 15° and 25° over Central Europe generally, and between 20° and 25° over some parts of Central England. Above 45° on the south-west coasts of our Islands, and above 50° at several of the Mediterranean stations, highest readings of all being 59° at Malta and 58° at Palma. Brisk rise taking place later over England and France.

Wind Southerly or South-Westerly over the greater part of our Islands as well as over Norway, Denmark, the Baltic, and Central Europe generally. Calm in Sweden, Finland, and the south of Russia. Easterly over the south of France and Northern Italy. Cyclonic circulation shown over Spain and Western Algeria. Subsequently increasing to a gale from South-East or South in the south of Ireland.

Barometer highest 30·5 ins. and upwards over the south of Russia. Lowest 29·7 ins. and less over the White Sea, but low, 29·8 ins. and less, to the westward of our Islands, and 29·9 ins., and less, in a depression lying over Spain. Russian anticyclone subsequently extending northwards, and Spanish depression filling up, but large and rather deep disturbance approaching the south-west of Ireland.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force being indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.)								Rainfall.			Bright Sunshine.	
		Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
December 17, 1888	York	—	—	—	—	—	—	—	—	—	—	—	11	21
„ 24 „	„	—	—	—	—	—	—	—	—	—	—	—	0	0
„ 24 „	Newton Reigney (Penrith)	49	23	47·0	35·5	41·5	+ 4·0	14	28	6	1·31	+0·51	9	16
„ 24 „	Llandudno	56	30	50·9	39·8	45·6	+ 3·4	34	6	5	0·34	−0·39	5	10
„ 24 „	Edgeworthstown	52	31	46·7	36·4	41·8	+ 1·9	13	25	6	0·88	+0·18	*	*
„ 31 „	Blackpool	48	28	42·6	32·2	37·6	− 3·1	2	26	4	0·83	+0·10	14	27
„ 31 „	Llandudno	50	30	46·3	35·7	41·2	− 0·9	12	26	5	0·63	−0·08	12	23

III.—DATA from which the SUMMARY on page 1 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	49	35	46·4	40·7	43·7	+ 4·1	17	4	4	0·26	−0·64	*	*
	Stornoway	51	32	47·4	38·1	42·9	+ 3·8	23	11	7	0·42	−0·78	7	16
	Wick	50	30	45·7	35·1	40·6	+ 2·1	10	28	2	0·05	−0·52	*	*
	Lairg ℌ	48	26	44·7	34·9	40·0	+ 2·9	8	28	4	0·15	−0·60	*	*
	Glencarron ℌ										†	?		
	Fort Augustus ℌ										†	?	*	*
1. SCOTLAND, E.	Nairn	50	26	46·4	33·0	40·0	+ 2·4	12	37	1	0·01	−0·46	*	*
	Aberdeen	47	26	43·1	32·3	37·9	+ 0·7	3	36	0	—	−0·61	14	30
	Braemar ℌ	45	19	42·2	29·5	36·1	+ 2·1	1	46	1	0·09	−0·61	10‡	21‡
	Ochtertyre ℌ	45	22	42·9	29·7	36·6	− 0·4	3	46	2	0·32	−0·81	*	*
	Leith	48	25	44·1	31·6	38·1	+ 0·4	6	40	1	0·05	−0·40	*	*
	Marchmont ℌ	46	29	42·1	32·4	37·4	+ 1·8	0	35	2	0·04	−0·63	16	32
2. ENGLAND, N.E.	Alnwick Castle	43	30	40·9	34·1	37·6	+ 0·1	0	31	0	—	−0·60	*	*
	Durham	45	25	40·7	30·0	35·6	− 1·7	0	45	1	0·03	−0·54	8	16
	Shields	45	29	42·3	32·4	37·6	− 0·9	1	33	0	—	−0·49	*	*
	Scarborough ℌ	40	25	36·7	29·4	33·2	− 4·7	0	62	2	0·05	−0·47	5‡	10‡
	York	43	23	35·9	27·3	31·8	− 6·3	0	71	0	0·02§	−0·46	?	?
	Spurn Head	41	23	36·9	28·9	33·1	− 5·5	0	62	0	—	?	*	*
3. ENGLAND, E.	Hillington ℌ	38	15	32·0	21·5	27·0	−10·2	0	105	1	0·06	−0·44	4	8
	Yarmouth	40	21	36·4	28·1	32·4	− 6·0	0	67	0	0·02§	−0·54	*	*
	Geldeston	45	18	37·1	23·5	30·6	− 7·7	0	80	0	—	−0·43	14	26
	Cambridge	38	14	32·6	19·4	26·3	−11·4	0	110	0	—	−0·39	8	14
	Rothamsted	37	16	32·8	21·6	27·4	−10·0	0	102	0	0·03§	−0·57	*	*
	Ingatestone	39	16	34·3	25·1	29·9	− 8·3	0	85	0	0·03§	−0·38	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	38	16	34·0	24·3	29·3	− 9·3	0	89	0	0·03§	−0·45	2‡	5‡
	Loughborough	36	18	32·4	22·1	27·5	−10·0	0	102	0	0·01§	−0·48	5‡	9‡
	Cheadle ℌ	39	18	34·7	25·3	30·2	− 6·9	0	83	1	0·01	−0·66	*	*
	Churchstoke ℌ	39	14	36·3	22·9	29·9	− 8·2	0	85	0	—	−0·68	10	20
	Hereford ℌ	39	19	32·8	23·1	28·1	−10·2	0	97	1	0·02	−0·57	*	*
	Cirencester	40	18	35·0	22·6	29·1	− 9·1	0	90	0	0·03§	−0·68	10	19
	Oxford	41	20	32·9	22·7	28·0	−10·8	0	98	0	—	−0·51	8	14
5. ENGLAND, S.	London	39	22	35·0	24·3	29·9	− 9·0	0	85	0	—	−0·49	0‡	0‡
	Strathfield Turgiss ℌ	39	19	33·0	22·6	28·0	−10·7	0	98	0	—	−0·55	*	*
	Dungeness	45	20	42·0	29·0	35·8	− 3·4	0	43	0	—	−0·66	*	*
	Hastings (St. Leonard's)	46	24	40·8	29·9	35·6	− 4·4	0	45	1	0·03	−0·64	18	32
	Southampton	41	21	36·9	27·5	32·4	− 6·7	0	67	1	0·01	−0·76	11	20
	Hurst Castle	46	23	39·7	29·6	34·9	− 6·0	0	50	1	0·01	−0·66	*	*
	Stowell ℌ	44	25	36·3	27·9	32·3	− 7·6	0	68	1	0·05	?	11‡	19‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	49	32	46·4	37·6	42·2	+ 2·7	20	12	6	0·83†	−1·19	*	*
	Glasgow	44	26	41·7	33·0	37·5	− 1·0	0	32	3	0·09	−0·91	1	1
	Ardrossan	45	29	44·0	35·4	39·9	+ 0·8	6	26	2	0·07	−0·92	*	*
	Glenlee §	45	23	41·6	30·0	36·1	− 2·0	0	41	3	0·11	?	*	*
	Douglas (Isle of Man)	49	29	45·8	34·4	40·3	− 0·3	11	31	1	0·21	−0·89	11	22
7. ENGLAND, N.W.	Newton Reigny (Penrith)	45	22	40·1	28·8	34·7	− 2·5	0	51	2	0·11	−0·74	14	27
	Barrow-in-Furness	44	31	40·9	33·3	37·3	− 2·9	0	33	1	0·04	−0·81	*	*
	Stonyhurst	40	27	39·1	32·2	35·8	− 2·5	0	43	1	0·05	−0·94	0	0
	Blackpool ℌ	43	26	38·1	29·2	33·8	− 6·7	0	57	0	—	−0·71	0	0
	Manchester	40	24	35·2	28·3	31·9	− 7·0	0	71	1	0·03	−0·76	*	*
	Liverpool Obsy (Bidston)	41	22	38·4	27·1	33·0	− 7·0	0	63	1	0·03	−0·51	*	*
	Llandudno ℌ	46	31	42·9	33·9	38·6	− 2·7	3	30	1	0·04	−0·65	16	29
	Holyhead	47	36	45·4	39·9	42·8	− 0·1	14	6	2	0·02	−0·80	*	*
8. ENGLAND, S.W.	Llandovery	46	17	37·1	25·6	31·6	− 8·5	0	73	2	0·09	−1·15	*	*
	Pembroke	49	33	44·3	36·7	40·7	− 1·9	6	22	1	0·01	−0·89	8	15
	Arlington (N. Devon)	46	22	39·6	26·3	33·2	− 7·2	0	62	1	0·02	−1·13	*	*
	Cullompton ℌ	46	23	38·4	26·8	32·8	− 8·4	0	64	1	0·01	−0·79	10	18
	Falmouth	48	31	44·5	35·3	40·1	− 3·5	7	27	2	0·02	−1·25	13	23
	Plymouth	45	30	41·8	32·4	37·3	− 5·1	0	33	1	0·01	−0·88	19	34
	Prawle Point	49	32	44·6	34·3	39·7	− 2·5	7	31	0	—	?	*	*
9. IRELAND, N.	Malin Head	47	35	45·1	38·7	42·0	+ 1·7	9	9	2	0·12	?	*	*
	Londonderry	45	27	42·0	31·8	37·1	− 4·1	0	34	4	0·33	−0·57	*	*
	Mullaghmore	49	30	46·6	35·7	41·3	− 0·8	13	26	3	0·27	−0·60	*	*
	Belmullet	49	33	48·0	38·4	43·4	− 0·7	25	10	3	0·52	?	*	*
	Markree Castle	44	21	41·3	27·8	34·8	− 7·0	0	50	3	0·29	−0·50	8	15
	Brookeborough	44	21	39·7	26·8	33·5	− 6·6	0	60	1	0·53	?	*	*
	Armagh	45	25	40·9	30·9	36·1	− 3·6	0	41	1	0·17	−0·49	11	22
	Donaghadee	46	30	43·4	32·1	38·0	− 2·7	4	37	3	0·09	−0·56	*	*
	Edgeworthstown	44	22	40·1	28·4	34·5	− 4·8	0	53	4	0·32	−0·36	*	*
10. IRELAND, S.	Dublin	47	27	42·5	32·2	37·6	− 3·2	1	36	3	0·09	−0·49	16	30
	Parsonstown	49	22	39·7	26·9	33·6	− 6·4	0	59	3	0·13	−0·57	14	27
	Kilkenny	48	21	40·3	28·4	34·6	− 5·1	0	52	2	0·32	−0·46	*	*
	Waterford	50	23	44·2	31·6	38·2	− 3·5	6	40	1	0·25	−0·77	*	*
	Roche's Point	50	32	45·7	38·6	42·3	− 0·7	16	10	1	0·55	−0·65	*	*
	Valencia	51	32	48·7	39·7	44·4	− 0·8	26	6	3	2·43	+1·01	115	128
	Killarney	49	24	44·8	33·4	39·3	− 4·1	8	33	3	1·65	?	*	*
	Foynes	49	25	42·5	34·4	38·6	− 3·1	1	28	3	0·38	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	52	39	49·1	41·4	45·4	− 0·9	26	2	1	0·01	−0·90	*	*
	Jersey	48	28	45·1	35·3	40·3	− 2·4	9	26	0	—	−0·79	40	69

Stations marked ℌ are in connection with the Royal Meteorological Society, and those marked § with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, and Laudale being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the first and second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

Note.—The Bright Sunshine values from Ingatestone have now ceased.

(OFFICIAL COPY.)

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 2.] *Third Series.* WEEK ENDING MONDAY, 14TH JANUARY, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 12.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	47	23	42·8	34·5	38·8	1 above.	2	− 3	28	− 8	2 *	+ 3	54 *	−1
	1. SCOTLAND, EAST	48	24	40·9	32·3	36·8	1 above.	0	− 6	36	− 9	4	− 6	75	−10
	2. ENGLAND, N.E.	45	29	41·1	34·5	37·9	0 (average).	0	− 5	29	−13	0	−11	79	+ 6
	3. ENGLAND, EAST	47	21	40·6	32·5	36·7	1 below.	0	− 6	37	− 9	0	−14	129	+43
	4. MIDLAND COUNTIES	47	25	41·2	32·7	37·1	1 below.	0	− 8	34	−12	0	−19	126	+46
	5. ENGLAND, SOUTH	50	24	42·4	34·8	38·8	1 below.	1	− 8	27	−10	1	−19	92	+20
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	47	27	41·9	34·6	38·4	1 below.	0	− 8	25	−11	5	−12	55	− 9
	7. ENGLAND, N.W.	49	30	42·0	35·9	39·1	1 below.	0	− 7	20	−16	0	−17	62	0
	8. ENGLAND, S.W.	51	26	43·7	36·4	40·2	1 below.	5	−10	22	− 1	5	−29	61	+25
	9. IRELAND NORTH	51	25	43·2	33·7	38·6	2 below.	3	− 8	31	+ 1	6	−21	67	+18
	10. IRELAND, SOUTH	52	27	48·7	35·7	40·9	1 below.	19	0	18	− 4	23	−16	51	+15
	— CHANNEL ISLANDS	52	31	47·8	40·5	44·3	0 (average).	22	+ 3	4	− 9	43	+ 1	14	− 5

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 12.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	4	7	1 less.	8	−2	0·9	−0·1	5	10	9	− 3	10	− 3
	1. SCOTLAND, EAST	4	5	2 less.	5	−1	0·6	−0·7	1	2	14	− 7	14	− 8
	2. ENGLAND, N.E.	6	8	3 more.	7	0	0·8	−0 2	0	0	6 *	− 8	6	− 7
	3. ENGLAND, EAST	6	5	0 (average).	6	−2	0·5	−0·4	2	4 †	11	− 9	10	− 8
	4. MIDLAND COUNTIES	4	5	1 less.	4	−3	0·5	−0·7	6	10	13	− 4	12	− 4
	5. ENGLAND, SOUTH	4	5	1 less.	5	−2	0·5	−0·8	7	13	17	− 1	15	− 2
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	2	9	4 less.	5	−3	1·2	−1·2	1	3	7	− 6	7	− 6
	7. ENGLAND, N.W.	2	3	5 less.	3	−4	0·3	−1·3	6	16	14	− 1	13	− 1
	8. ENGLAND, S.W.	3	9	2 less.	4	−4	0·9	−1·2	12	21	23	+ 2	22	+ 1
	9. IRELAND, NORTH	4	11	4 more.	7	−2	1·4	−0·1	6	12	16	− 2	15	− 3
	10. IRELAND, SOUTH	4	13	3 more.	6	−2	2·0	+0·1	10	19	25	0	23	0
	— CHANNEL ISLANDS	4	9	0 (average).	5	−4	0·9	−0·8	13	22	53	+22	45	+18

General Remarks.

Weather has been very dull generally with a good deal of haze or mist. Rain fell in all parts of the Kingdom during the first part of the period, but subsequently conditions became drier, although slight rain was still reported from some of our eastern stations. Snow and sleet were experienced over England during the 12th.

Temperature has continued slightly above the mean in the north and east of Scotland, but in nearly all other districts it has been rather below. The highest of the maxima, which which were registered either on the 8th or 9th, varied from 45° in "England, N.E." to 52° in "Ireland, S." and the "Channel Islands". The lowest of the minima were recorded in most places during the early morning of the 8th, when the thermometer fell to 21° in "England, E." and to between 23° and 29° in most other districts. In "England, N.W." the minimum was 30° and in the "Channel Islands" 31°.

Rainfall has been more than the mean in "England, N.E." and over Ireland, but in most other districts a deficit is shown.

Bright sunshine has been very deficient, especially over Great Britain. The percentage of the possible amount of duration ranged from 12 to 19 in Ireland, and from 2 to 10 in Scotland. In "England, N.E." bright sunshine was quite absent, but in the other English districts the percentage ranged from 4 to 21.

Barometer and Wind.—During the whole of the period barometrical pressure was highest, and comparatively steady, over the north-eastern parts of our area, but over the British Islands and France the barometer rose and fell considerably. During the earlier part of the period depressions moved over us from the Atlantic, but towards its close an irregularly shaped anticyclonic area appeared over our western coasts and travelled slowly eastwards, while in the west and north-west the barometer again fell decidedly. Southerly winds, moderate in the east and strong to a gale in the west, were general at the commencement of the period. The gales soon subsided, and the wind became very changeable in direction; in the north and north-west, however, it remained chiefly Southerly South-Westerly.

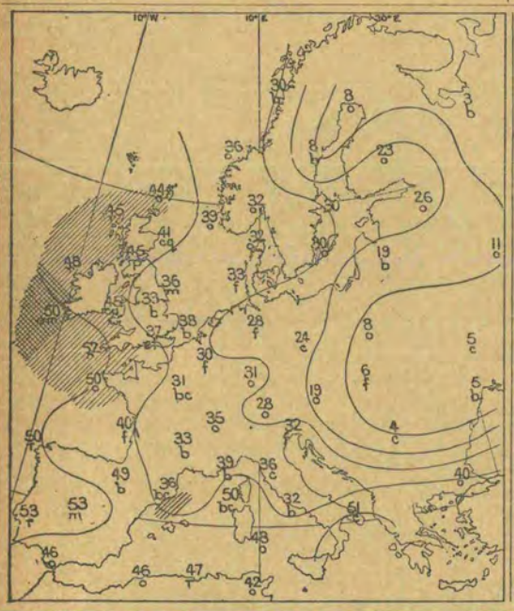
* This value has been altered owing to the receipt of further information.
† The corresponding value for last week should read "16".

A 57140. 350.—1/89. Wt. 37. E & S.

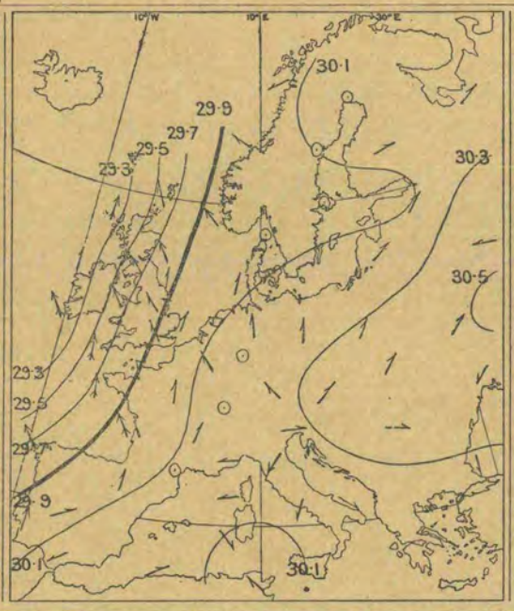
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 8th January.

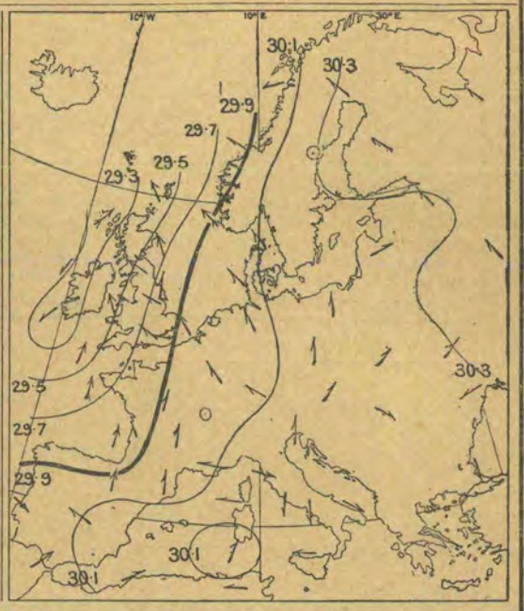
Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



6 p.m.



Weather rainy in the west and extreme north of our Islands, as well as in Portugal and some parts of Algeria. Foggy over the Netherlands and Eastern Austria; dull over Northern Russia; fine in Italy and the southern districts of France and Russia. Rain falling later in almost all parts of Western Europe, the largest amounts being 1·5 ins. at San Fernando, 0·8 in. at Belmullet, and 0·7 in. at Stornoway.

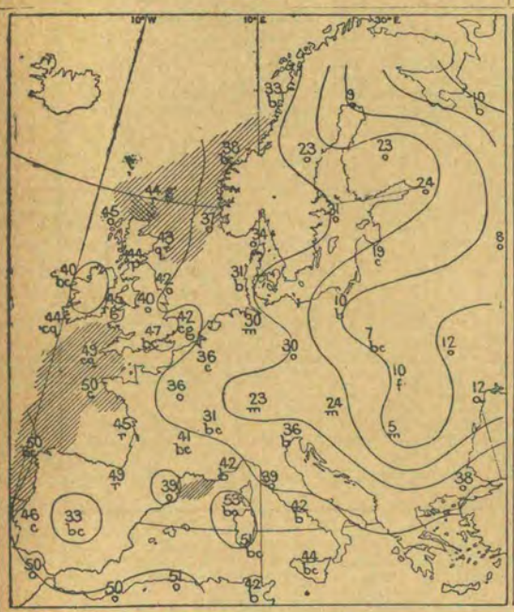
Temperature varying between 2° and 10° over the northern parts of Sweden and Russia, and also in the south of the later country; below the freezing point over Germany, Austria, and Northern Italy. A little above 50° on our extreme south-west coasts, as well as at the Portuguese and some of the Mediterranean stations. Fall taking place in Ireland later.

Wind strong to a gale from the Southward or South-Eastward over the west and north of our Islands, the Bay of Biscay, and Portugal, with a rough sea in most places; moderate from the same quarters in other parts of Western Europe. Light from South or South-West over Russia and Germany; moderate from East in the south of France, and from West on the Algerian coasts. Subsequently veering to the Northward in the west of Ireland, and moderating.

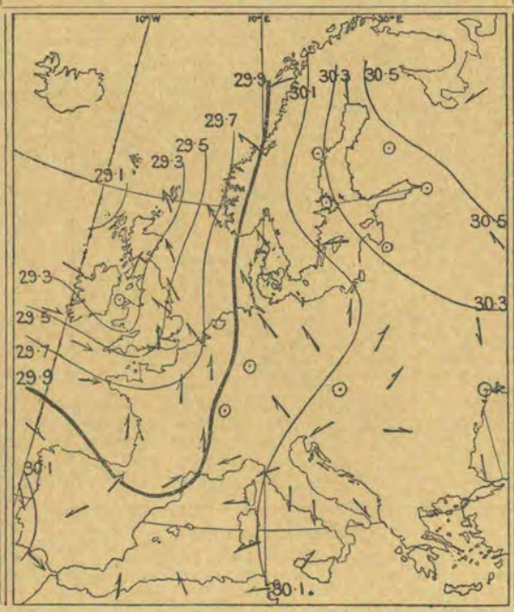
Barometer highest, 30·4 ins. to 30·5 ins., over Central Russia; lowest 29·2 ins. and less in a large and deep depression lying to the westward of the British Islands. Shallow depression, with readings below 30·1 ins., reported off the Tunisian coasts. Barometer falling quickly in Ireland and Scotland, and steadily in most parts of Western Europe. Depression in west subsequently developing into a "V-shaped" disturbance, and barometer rising again in the west of Ireland.

Wednesday, 9th January.

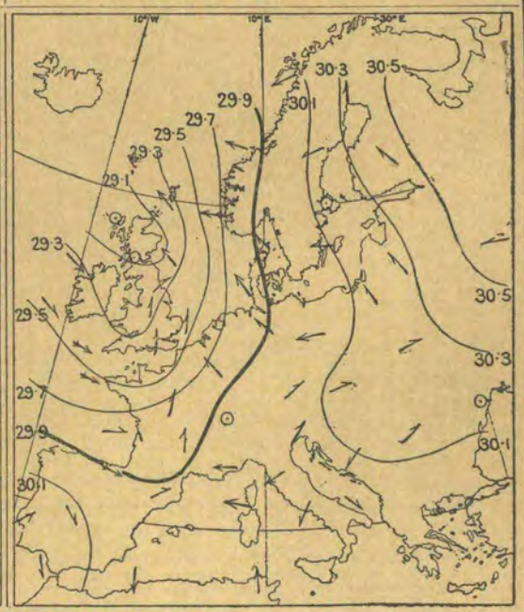
Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



6 p.m.



Weather fine over Southern Europe generally, as well as in the west of Norway and some parts of Ireland. Dull elsewhere, with rain over Great Britain and the west of France, and snow at Helsingfors. Hail showers falling later in the west of our Islands, and heavy rain experienced in some parts of England and France, the largest amounts being 0·9 in. at Croisette, 0·8 in. at Marseilles, and 0·7 in. at Bordeaux and Biarritz.

Temperature lowest (zero to −10° Faht.) over Northern Russia; low, 5° to 10°, over Central Russia, Poland, and Eastern Austria, several degrees below the freezing point in Germany. High for time of year, 45° to 49°, over the south of England; above 50° at several of the Mediterranean stations, highest of all being 54°, at Nemours. Colder weather subsequently spreading over our Islands from the westward.

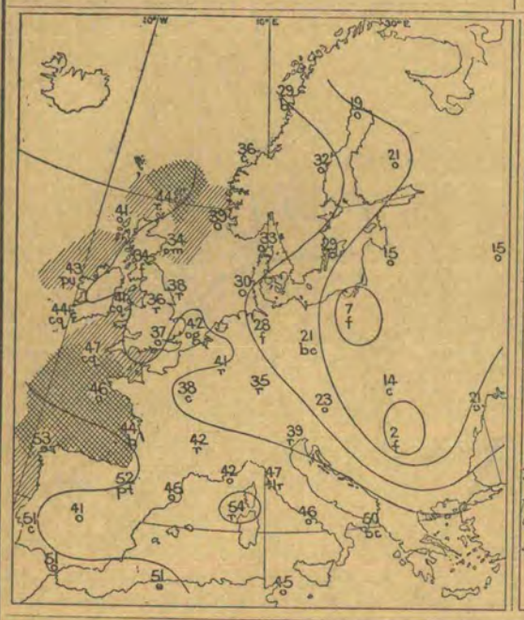
Wind Southerly or South-Easterly over the greater part of Western Europe, and strong in force over the eastern and southern parts of Great Britain; moderate from West in Ireland and from North-West in Portugal. Light and variable breezes prevalent over Russia and Central Europe; moderate Easterly in the neighbourhood of the Gulf of Genoa, South-Easterly in Algeria. Subsequently veering to North-West in the west of our Islands, and to West over the Bay of Biscay.

Barometer highest, 30·6 ins. and upwards, over Northern Russia; high, 30·1 ins. and upwards, to the south-westward of Spain. Lowest, 29·1 ins. and less, in a depression lying off the Hebrides, but well marked secondary disturbance with readings below 29·3 ins. lying over Wales and the Irish Sea. Barometer rising in Ireland. Secondary disturbance subsequently moving north-westwards, and further small depressions appearing over England.

Thursday, 10th January.

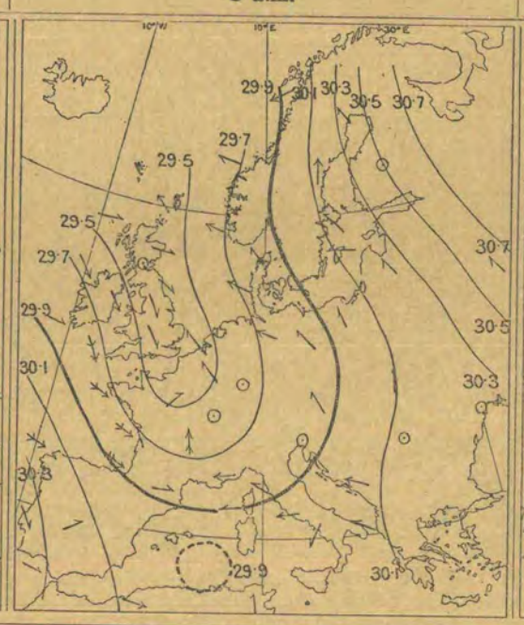
Temperature and Weather.

8 a.m.

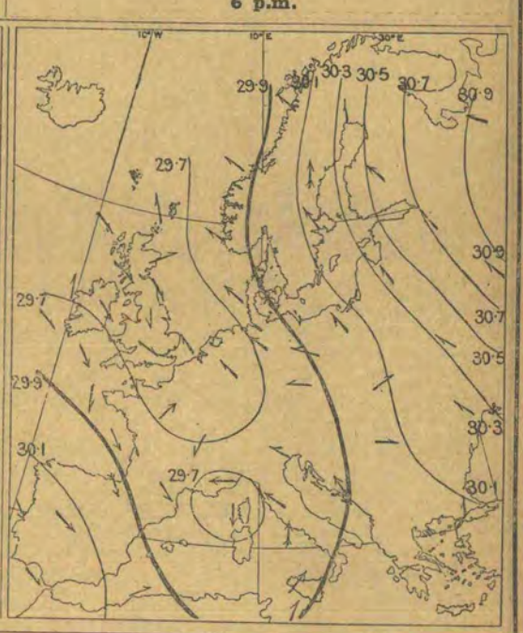


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine generally in the west and north of the United Kingdom, but showery in places. Cloudy or overcast elsewhere, with rain over the Netherlands and east of England, as well as in the neighbourhood of the Gulf of Genoa, thunderstorms at Biarritz and Leghorn, and snow at Nicolaieff. Thunderstorms occurring later at Rome, and heavy rain falling over Italy and the south of France, the largest amounts being 1·3 ins. at Leghorn and Nice, and 1·0 inch at Rome.

Temperature several degrees below the freezing point over Russia and Eastern Austria, lowest reading being 2° Fahr. at Hermanstadt. Below 40° in most parts of Great Britain, above 50° on the coasts of Spain, Corsica, and Algeria, highest reading being 51° at Sanguinaire. Frost setting in over the central parts of Ireland and Scotland at night.

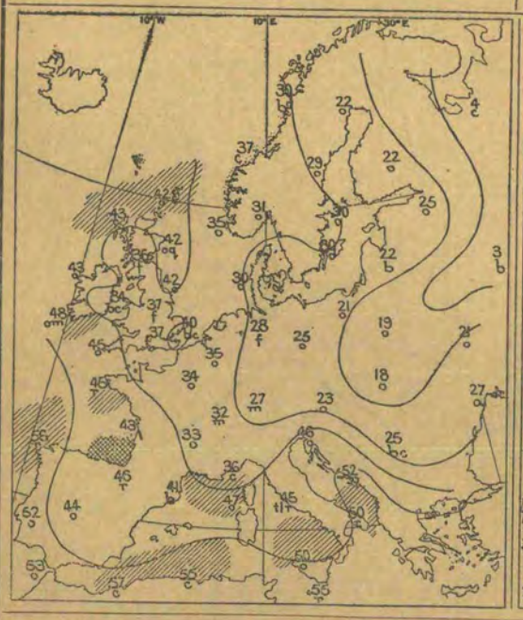
Wind blowing a severe gale from the North-Westward over the Bay of Biscay, and a slight gale from the same quarter in the west of our Islands with a high or rough sea. Strong from the South-Eastward over Scandinavia, Denmark, and the Baltic, with a gale at the mouth of the Gulf of Finland; light from South-East over Central Europe. Moderate from East over Italy and the south of France, and from the westward in Algeria. Subsequently falling light in Ireland and backing to the Southward in the extreme west.

Barometer highest, 30·7 ins. and upwards, over Northern and Central Russia; high, 30·3 ins. and upwards, to the south-westward of Spain. Lowest, 29·4 ins. and less in a depression lying off the north of Scotland, and also in another disturbance lying over the east and south-east of England. Barometer rising in the extreme western countries, falling elsewhere. Depressions in the north and east subsequently filling up, but new disturbance beginning to appear off the west of Ireland, and well marked system forming over Corsica and the Gulf of Genoa.

Friday, 11th January.

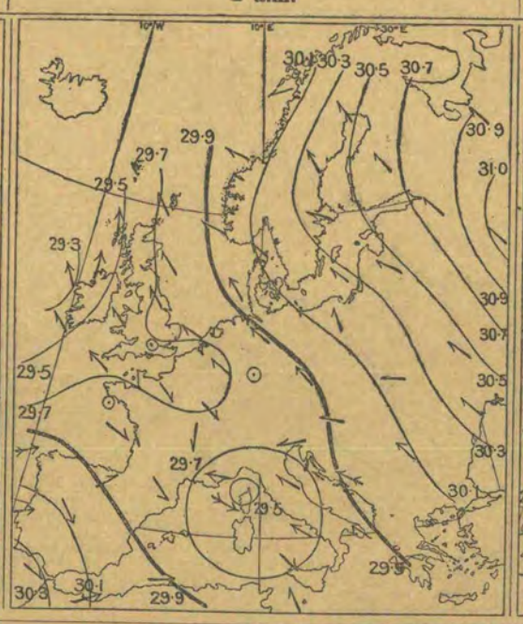
Temperature and Weather.

8 a.m.

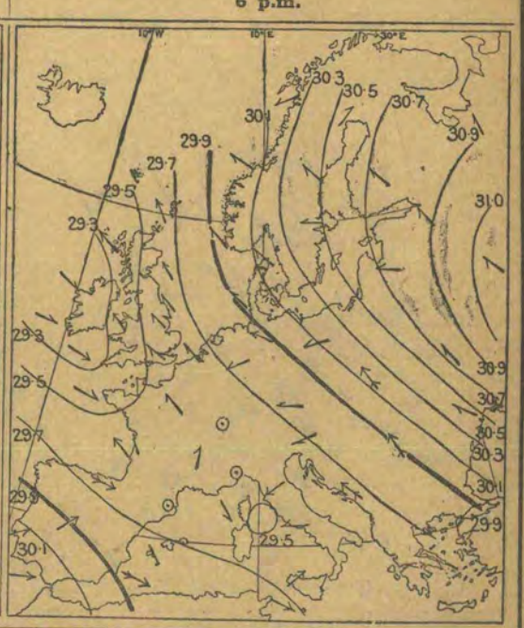


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine in many parts of Great Britain, as well as in the west of Norway and the south of France. Foggy over Central England and the Netherlands, dull elsewhere, with rain in Ireland, Southern Italy, and the south-west of France; thunderstorm at Rome. Rain falling later in most parts of Western and Southern Europe, and also in Algeria, the largest amounts being 3·5 ins. at La Calle, 1·9 ins. at Lesina, 1·3 ins. at Brindisi, 1·0 ins. at Biarritz, and 0·9 in. at Valencia and Ushant.

Temperature below 5° Fahr. over Northern and Central Russia, and considerably below the freezing point over Austria and Eastern Germany; above 50° in Portugal and on the southern shores of the Mediterranean; highest reading being 57° at Nemours and Oran. Frost occurring over England at night.

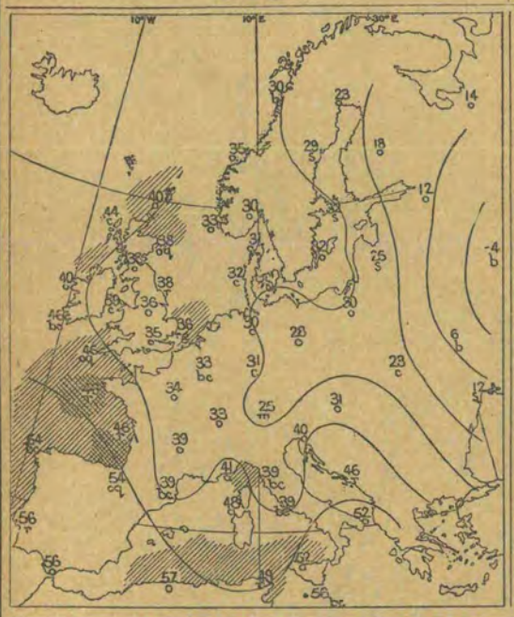
Wind variable over England, North-Westerly over France and Spain, and Westerly in Algeria; strong to a gale in force over the western portions of the Mediterranean. South-Easterly winds in Ireland and Scotland, and also over the whole of Northern and Eastern Europe; light to fresh in force generally, but a gale reported at Lesina. South-Easterly breezes subsequently extending over England and France, but wind in Ireland shifting to the North-Westward.

Barometer highest, 31·0 ins. and upwards, over Central Russia; high, 30·3 ins. and upwards, off the south of Spain. Lowest, 29·3 ins. and less, in a depression lying off the west of Ireland; low, 29·5 ins. and less, in another disturbance lying over the Gulf of Genoa. Barometer falling in most parts of Western and Southern Europe, but rising elsewhere. Further low pressure systems appearing later over the Bay of Biscay and the south-west of our Islands.

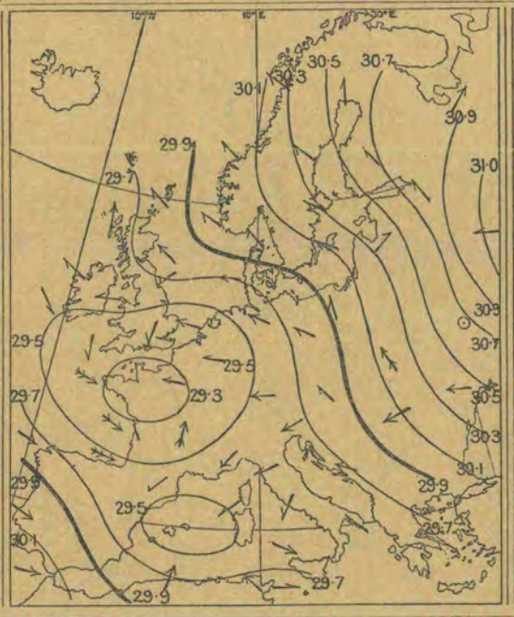
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 12th January.

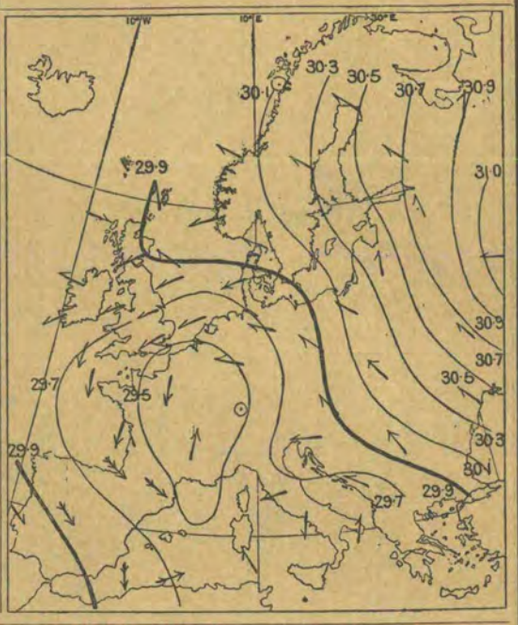
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine over Central Russia and Northern Italy, but cloudy or overcast elsewhere, with rain or sleet over France and the east of England, snow at the Baltic stations, as well as at Odessa. Sky subsequently clearing in the west of our Islands, but snow and rain continuing over England and France, the largest amounts being 1·3 ins. at Croisette, and 0·5 in. at Besançon and Cette.

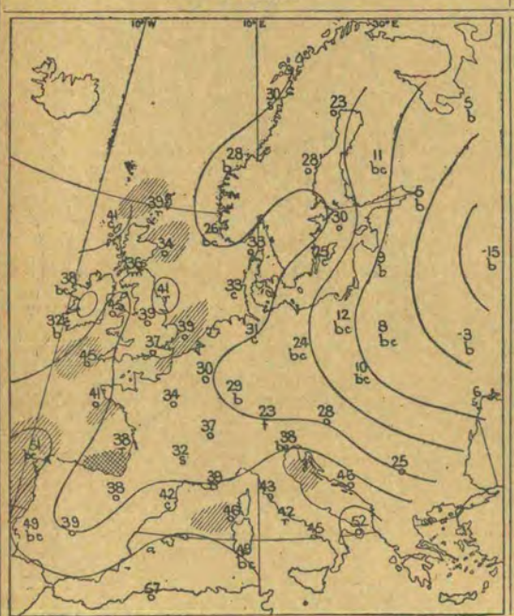
Temperature below zero over Central Russia (Moscow −4° Faht.), considerably below the freezing point over Northern Russia and the Baltic; below 40° in most parts of the United Kingdom. Above 50° over Spain and the southern shores of the Mediterranean, highest readings being 57° at Algiers, and 56° at Lisbon and Malta. Scarcely any rise taking place over the eastern parts of Great Britain during day.

Wind South-easterly over the whole of Northern and Eastern Europe; strong to a gale at some of the Baltic stations, as well as at Lemberg. Strong from the Southward in the north of our Islands; fresh from East or North-east in the south. Two distinct cyclonic circulations shown over France and the Western Mediterranean, respectively; North-westerly and Westerly gales blowing over the Bay of Biscay and Spain, Southerly gale at Lyons. Strong North-easterly winds reported in the Riviera, and strong South-westerly winds on the Algerian coasts. Gales in France subsiding later.

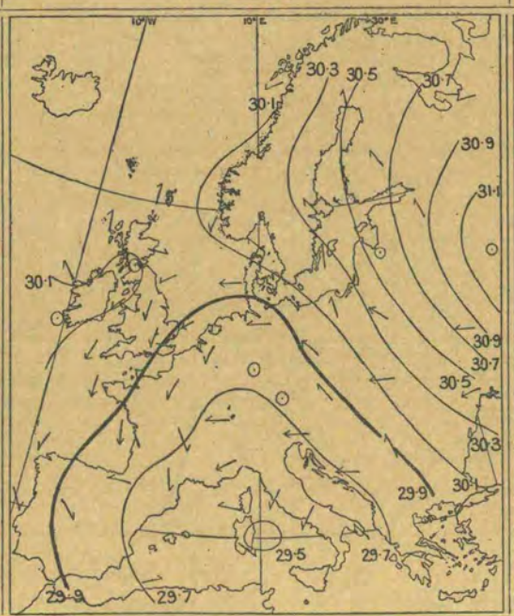
Barometer exceedingly high, 31·1 ins. and upwards, over Central Russia; high over the whole of Northern and Central Europe, and also to the south-westward of Spain. Lowest, 29·3 ins. and less, in a depression lying over the North of France; low, 29·5 ins. and less, in a depression lying over the Western Mediterranean. Barometer falling in Central and Southern Europe, but rising elsewhere. Depressions both filling up later, and mercury rising generally.

Sunday, 13th January.

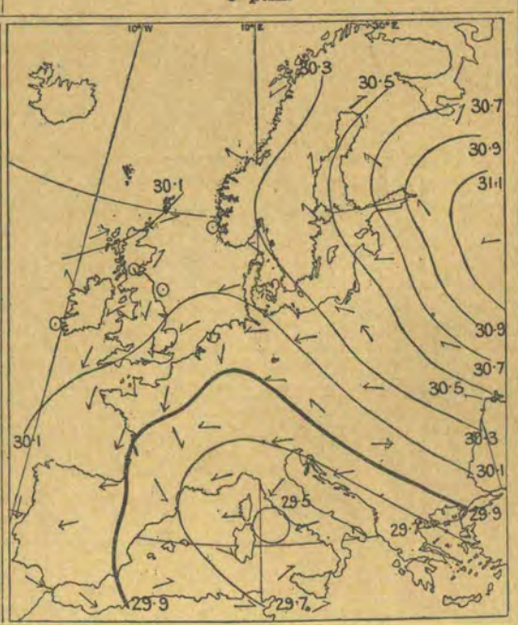
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine over the greater part of Russia and Germany, as well as in Portugal and the west and north of the British Islands. Dull elsewhere, with rain or sleet in many parts of England and France, and snow at Bodö, Odessa, and Lyons. Rain also reported at Rome and Pesaro. Snow falling later at some of the Scandinavian stations, and thunderstorms, with heavy rain, occurring at Rome and Algiers. Lunar halos seen in the north-west of the United Kingdom.

Temperature very low (zero to −15° Faht.) over Central Russia; below the freezing point over Northern and Central Europe generally, as well as over the inland parts of Ireland. Above 45° over Portugal and the Mediterranean, and above 55° in Algeria, highest reading of all being 59° at Oran. Frost occurring at night over Central Scotland.

Wind South-Easterly over Scandinavia, the Baltic, and Germany, with gales at Hangö and Memel; Easterly over Italy and the southern parts of Russia and France; strong in force over the Adriatic. Moderate breeze from North-East or North in England and the greater part of France, and from North-West over Spain and Algeria. Light from South in the extreme north and north-west of our Islands. Wind over Baltic moderating later.

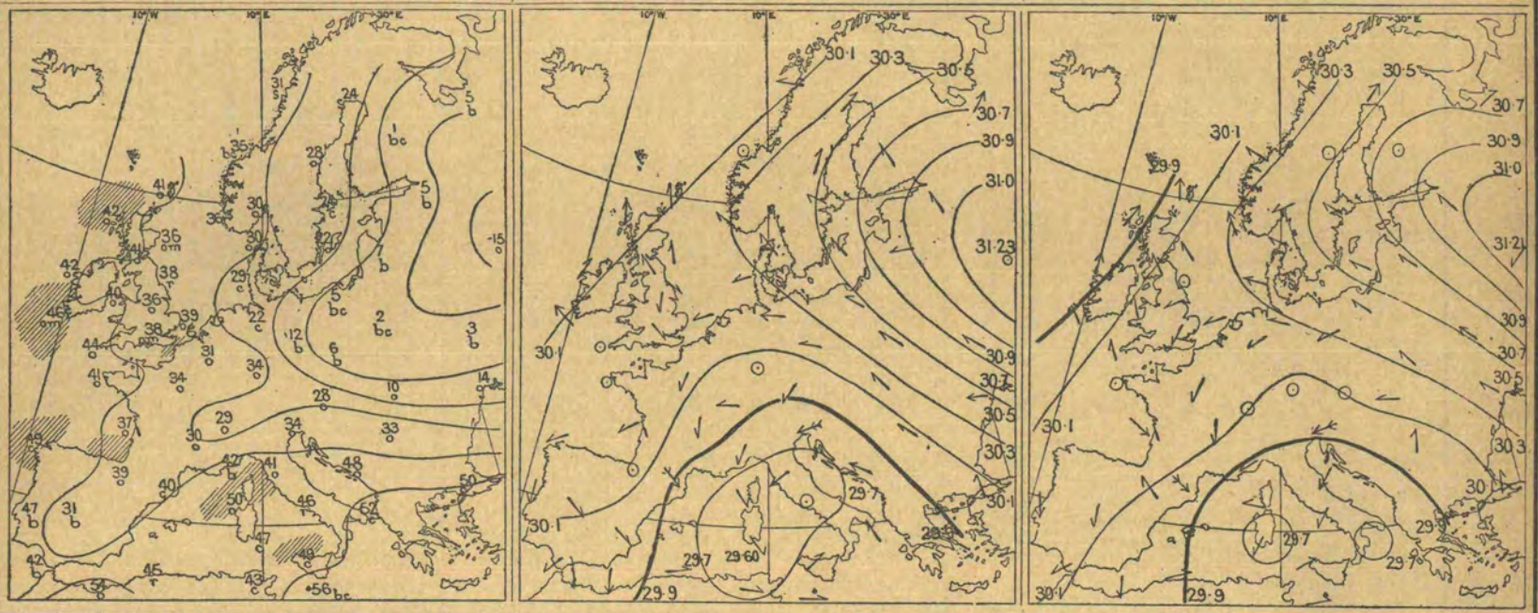
Barometer still very high, 31·1 ins. and upwards, over Central Russia; high, 30·1 ins. and upwards, in a separate and much smaller anticyclonic system lying over Ireland and the south-west of Scotland. Lowest, 29·5 ins. and less, in a depression lying between the coasts of Italy and Sardinia. Barometer rising slightly at all but the Italian and Algerian stations. No very decided change occurring during day, but pressure continuing to increase over Central Russia.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 14th January.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine in Russia, Germany, Austria, and Spain, as well as at some of the Mediteranean stations, but dull elsewhere, with fog or mist over England, snow in the north of Scandinavia, and rain at Naples and Algiers. A little rain falling later in the west and north of our Islands, and larger amounts at some of the Mediterranean stations, with a thunderstorm at Rome.

Temperature still very low (zero to −15° Faht.) over Central Russia; only 1° to 5° over Finland, Poland, and the southern shores of the Baltic, and below the freezing point over Central Europe generally. Above 45° in the south of Ireland, and above 50° at some of the Mediterranean stations,—highest readings of all being 56° at Malta and 55° at Oran. Brisk rise taking place later on southern shores of Baltic.

Wind moderate from the South-Eastward over Scandinavia and Russia; fresh from the Southward in the extreme west and north of our Islands. Moderate from North-East over France, Germany, and the south of England, and strong to a gale from the same quarter over Northern Italy. Cyclonic circulations shown over Southern Italy and the neighbouring portions of the Mediterranean. Strong Southerly winds experienced in Ireland later, and a fresh South-Westerly gale in the Hebrides.

Barometer exceedingly high over Central Russia, highest reading 31·23 ins. at Moscow; long and broad band with readings above 30·2 ins. extending from Scandinavia to the west and south-west of England. Pressure lowest, 29·6 ins. and less, in two depressions lying respectively over the Adriatic and off the Sardinian coasts, but low 30·0 ins. and less in the extreme north-west of Scotland. Barometer falling in Ireland, Scotland, and the north of Scandinavia, but rising elsewhere. Depressions in neighbourhood of Italy subsequently moving slowly southwards.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force being indicated thus: ⇛⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
January 7, 1889	Glencarron	47	19	44·9	30·1	37·8	+ 0·8	8	46	6	0·19	?		
„ 7 „	Fort Augustus	46	24	44·4	34·0	39·4	+ 1·5	7	31	3	0·15	?	*	*
„ 7 „	York	—	—	—	—	—	—	—	—	—	—	—	4	8

III.—DATA from which the SUMMARY on page 7 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	45	38	43·1	39·7	41·5	+ 2·3	3	10	6	0·79	−0·06	*	*
	Stornoway	47	35	44·6	37·1	41·0	+ 2·3	7	20	6	1·48	+0·30	6·5	14
	Wick	45	34	42·9	37·0	40·1	+ 2·0	3	19	5	0·31	−0·17	*	*
	Lairg	44	23	40·6	30·0	35·5	− 1·5	0	46	1	0·34	−0·47	*	*
	Glencarron	49	26	41·5	29·6	35·8	− 0·9	0	43	2	0·82†	?	3·0	6
	Fort Augustus	46	24	44·0	33·3	38·9	+ 1·1	6	34	3	0·64†	?	*	*
1. SCOTLAND, E.	Nairn	48	26	42·9	32·0	37·7	+ 0·4	3	37	1	0·04	−0·42	*	*
	Aberdeen	44	28	41·7	34·4	38·2	+ 1·1	0	27	5	0·53	−0·03	0·3	1
	Braemar	41	24	38·7	29·9	34·5	+ 0·8	0	53	5	0·86	+0·17	3·2‡	6‡
	Ochtertyre	44	26	41·4	31·0	36·4	− 0·3	0	39	3	1·01	−0·17	*	*
	Leith	45	28	42·0	34·3	38·3	+ 0·9	0	26	2	0·08	−0·37	*	*
	Marchmont	41	30	38·9	32·1	35·6	+ 0·2	0	45	5	0·37	−0·28	0·2	0
2. ENGLAND, N.E.	Alnwick Castle	42	33	40·4	35·0	37·8	+ 0·6	0	29	6	0·69	+0·19	*	*
	Durham	44	29	39·6	33·7	36·8	− 0·3	0	36	6	0·54	+0·05	0·2	0
	Shields	45	31	42·3	34·9	38·8	+ 0·7	1	26	7	0·84	+0·43	*	*
	Scarborough	43	30	41·1	35·5	38·4	+ 0·8	0	25	6	0·92	+0·49	0·2‡	0‡
	York	45	29	41·1	33·0	37·2	− 0·7	0	34	5	1·03	+0·60		
	Spurn Head	45	32	42·3	34·6	38·6	0·6	1	27	7	0·57	?	*	*
3. ENGLAND, E.	Hillington	46	24	40·0	32·2	36·3	− 0·6	0	40	7	0·49	+0·05	1·5	3
	Yarmouth	44	21	41·3	34·0	37·8	− 0·3	0	29	5	0·42	−0·08	*	*
	Geldeston	46	28	41·6	34·4	38·1	0·0	0	27	5	0·48	+0·10	2·4	4
	Cambridge	47	24	40·3	30·9	35·8	− 1·4	0	43	5	0·42	+0·03	3·1	6
	Rothamsted	46	23	40·1	31·7	36·1	− 1·1	0	41	7	0·67	−0·06	*	*
	Ingatestone	47	24	?40·4	31·9	?36·3	? − 1·6	0	?40	5	0·37	−0·03	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	45	26	40·3	31·9	36·3	− 1·9	0	40	6	1·16	+0·72	2·0‡	4‡
	Loughborough	47	28	41·9	33·1	37·7	+ 0·5	0	30	6	0·80	+0·31	3·5	6
	Cheadle	44	31	39·9	33·6	36·9	+ 0·2	0	36	6	0·28	−0·33	*	*
	Churchstoke	46	32	40·8	33·2	37·2	− 0·7	0	34	2	0·27	−0·40	7·0	13
	Hereford	46	25	42·0	32·8	37·6	− 0·6	0	31	3	0·37	−0·23	*	*
	Cirencester	45	27	41·6	32·9	37·4	− 0·8	0	32	4	0·38	−0·37	9·4	17
	Oxford	47	20	41·7	31·7	36·9	− 1·7	0	36	4	0·43	−0·09	5·7	10
5. ENGLAND, S.	London	49	24	42·1	33·7	38·1	− 0·4	0	31	4	0·55	+0·05	1·5‡	3‡
	Strathfield Turgiss	48	25	41·1	32·2	36·9	− 1·4	0	36	3	0·47	−0·12	*	*
	Durgeness	48	25	42·9	35·9	39·5	− 0·1	3	23	4	0·47	−0·16	*	*
	Hastings (St. Leonard's)	49	31	41·5	35·9	38·8	− 0·8	0	22	7	0·54	−0·11	3·4	6
	Southampton	50	32	43·5	35·5	39·7	+ 1·0	4	25	3	0·49	−0·30	11·5	21
	Hurst Castle	49	32	43·9	36·1	40·2	− 0·2	5	23	3	0·53	−0·16	*	*
	Stowell	48	31	41·6	34·2	38·1	− 1·6	0	27	4	0·45	?	12·2‡	22‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	45	30	42·6	33·2	38·1	− 1·1	2	33	3	1·62†	−0·31	*	*
	Glasgow	45	33	41·1	35·8	38·7	+ 0·5	0	23	2	0·58	−0·44	1·1	2
	Ardrossan	45	30	42·1	34·7	38·6	− 0·5	0	24	2	0·79	−0·22	*	*
	Glenlee	43	27	40·6	32·4	36·7	− 1·2	0	37	3	1·08	?	*	*
	Douglas (Isle of Man)	47	31	43·3	36·7	40·1	− 0·2	4	20	2	0·45	−0·67	1·5	3
7. ENGLAND, N.W.	Newton Reigny (Penrith)	44	30	39·5	32·7	36·2	− 1·0	0	41	3	0·37	−0·50	6·5	13
	Barrow-in-Furness	44	34	41·6	36·1	39·0	− 1·1	0	21	2	0·45	−0·44	*	*
	Stonyhurst	45	34	41·1	35·6	38·5	+ 0·3	0	25	1	0·10	−0·85	6·3	12
	Blackpool	49	33	43·8	35·2	39·7	− 0·5	5	26	2	0·31	−0·39	8·4	16
	Manchester	46	34	41·3	36·3	38·9	+ 0·2	0	22	2	0·07	−0·68	*	*
	Liverpool Obsr (Bidston)	45	33	41·3	36·0	38·8	− 0·6	0	22	1	0·07	−0·45	*	*
	Llandudno	48	32	43·4	37·0	40·4	− 0·7	4	20	3	0·58	−0·09	3·1	6
	Holyhead	49	32	44·0	38·6	41·4	− 0·9	6	14	3	0·35	−0·45	*	*
8. ENGLAND, S.W.	Llandovery	48	26	42·3	33·7	38·2	− 1·6	1	31	4	0·80	−0·45	*	*
	Pembroke	49	35	44·7	39·6	42·3	− 0·1	12	7	3	0·60	−0·29	11·5	21
	Arlington (N. Devon)	47	28	41·7	34·4	38·2	− 2·0	0	27	3	0·69	−0·31	*	*
	Cullompton	49	29	43·2	34·4	39·0	− 2·2	3	29	3	0·62	−0·17	11·4	20
	Falmouth	50	37	45·4	39·0	42·3	− 1·0	15	8	4	1·74	+0·44	12·1	21
	Plymouth	51	32	44·4	37·0	40·9	− 1·3	7	21	3	1·02	+0·11	12·8	22
	Prawle Point	49	32	44·1	36·9	40·6	− 1·5	6	20	3	0·45	?	*	*
9. IRELAND, N.	Malin Head	48	34	42·6	35·4	39·1	− 1·0	2	24	4	0·49	?	*	*
	Londonderry	49	31	42·8	33·9	38·5	− 2·7	2	30	5	0·74	−0·16	*	*
	Mullaghmore	51	31	45·0	35·1	40·3	− 2·1	8	28	4	1·09	+0·26	*	*
	Belmullet	49	32	45·4	36·1	40·9	− 3·3	10	24	5	2·24	?	*	*
	Markree Castle	49	25	42·5	29·8	36·4	− 5·6	1	45	4	1·13	+0·34	8·7	16
	Brookeborough	48	25	41·4	29·9	35·9	− 4·2	0	43	4	1·62	?	*	*
	Armagh	49	28	43·3	34·2	38·9	− 0·6	4	29	3	0·88	+0·21	3·5	7
	Donaghadee	48	33	43·7	37·9	40·9	+ 0·4	5	16	3	0·95	+0·27	*	*
	Edgeworthstown	50	28	42·3	31·0	36·9	− 2·3	1	40	5	1·16	+0·50	*	*
10. IRELAND, S.	Dublin	51	32	44·5	36·6	40·7	+ 0·1	7	22	3	1·70	+1·21	9·4	17
	Parsonstown	52	27	43·7	31·6	37·9	− 2·1	5	39	4	1·10	+0·40	7·9	15
	Kilkenny	50	28	43·7	33·3	38·7	− 1·7	5	33	2	0·87	+0·07	*	*
	Waterford	50	29	45·7	35·4	40·8	− 0·5	10	27	4	1·27	+0·22	*	*
	Roche's Point	51	33	47·1	38·6	43·0	+ 0·3	21	10	5	1·08	−0·17	*	*
	Valencia	51	29	48·7	38·4	43·8	− 1·3	28	10	5	2·05	+0·55§	13·7§	25§
	Killarney	52	27	46·6	34·9	41·0	− 2·3	13	30	6	1·36	?	*	*
	Foynes	52	31	45·7	36·6	41·3	− 0·1	10	23	4	0·97	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	52	39	48·9	42·9	46·0	− 0·1	28	0	4	1·02	+0·12	*	*
	Jersey	52	31	46·7	38·0	42·5	+ 0·4	20	11	4	0·71	−0·06	13·2	22

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked S with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, and Laudale being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the first and second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

§ The corresponding values for last week should read "+1·01", "15" "28".

NOTE.—*Bright Sunshine.* The values are now given in hours + tenths.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 3.] *Third Series.* WEEK ENDING MONDAY, 21ST JANUARY, 1889. [*Price 6d.* [*Annual subscription, post paid*, £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

DISTRICTS. (See p. 18.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
	°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	57	29	46·1	36·1	41·3	3 above.	11	+ 6	25	−11	23 *	+ 3	79	−26 *
1. SCOTLAND, EAST	58	29	46·2	34·8	40·7	5 above.	12	+ 6	30	−15	16	− 5	105	−23
2. ENGLAND, N.E.	55	30	44·0	34·7	39·5	2 above.	6	+ 1	28	−14	6	−13	107	− 8
3. ENGLAND, EAST	50	27	41·5	31·6	36·8	1 below.	0	− 6	36	−10	0	−20	165	+32
4. MIDLAND COUNTIES	55	27	44·2	33·4	39·0	1 above.	6	− 2	33	−13	6	−22	159	+31
5. ENGLAND, SOUTH	52	26	43·5	34·2	39·1	0 (average).	4	− 5	30	− 7	5	−24	122	+18
Principal Grazing, &c. Districts 6. SCOTLAND, WEST	55	29	46·3	38·3	42·5	4 above.	19	+11	10	−26	24	− 4	65	−34
7. ENGLAND, N.W.	54	33	45·3	37·7	41·6	2 above.	9	+ 2	18	−17	9	−17	80	−17
8. ENGLAND, S.W.	54	28	47·5	37·3	42·6	1 above.	24	+ 9	13	− 9	29	−18	74	+12
9. IRELAND NORTH	55	30	48·6	39·3	44·1	3 above.	26	+15	8	−22	32	− 8	75	− 5
10. IRELAND, SOUTH	56	28	50·3	40·0	45·4	4 above.	32	+13	6	−15	55	− 3	57	− 6
— CHANNEL ISLANDS	54	33	48·9	40·9	45·1	1 above.	26	+ 7	3	−10	69	+10	17	−18

Rainfall. Bright Sunshine.

DISTRICTS. (See p. 18.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
		10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	6	14	3 more.	14	−1	2·3	+0·2	5	10	14	− 7	10	− 4
1. SCOTLAND, EAST		3	4 less.	10	+1	0·9	−1·1	11	21	25	−10	17	− 7
2. ENGLAND, N.E.	3	1	4 less.	10	+1	0·9	−0 5	7	12	14 †	− 6	9	− 4
3. ENGLAND, EAST	2	2	3 less.	8	−2	0·7	−0·7	7	13	18	− 8	11	− 5
4. MIDLAND COUNTIES	4	2	4 less.	8	−1	0·7	−1·1	8	14	21	− 2	13	− 1
5. ENGLAND, SOUTH	3	1	5 less.	8	−1	0·6	−1·3	8	14	25	+ 2	15	+ 1
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	6	13	5 less	11	0	2·5	−1·6	9	17	16	− 6	10	− 4
7. ENGLAND, N.W.	4	3	5 less.	7	−3	0·6	−1·7	9	16	23	0	14	0
8. ENGLAND, S.W.	4	3	8 less.	8	−3	1·2	−1·9	16	27	41	+ 8	24	+ 5
9. IRELAND, NORTH	6	10	3 more.	13	−1	2·4	+0·1	2	4	18	−14	11	− 8
10. IRELAND, SOUTH	5	11	2 more.	11	−1	3·1	+0·2	7	12	32	− 7	20	− 4
— CHANNEL ISLANDS	5	4	4 less.	10	−2	1·3	−1·2	14	23	67	+23	39	+14

General Remarks.

Weather has been unsettled and rainy in Ireland and the greater part of Scotland, but in England, although the sky was generally cloudy or overcast, the rainfall has been slight. Fog was occasionally experienced in various parts of England.

Temperature has been slightly below the mean in "England, E." and about equal to it in "England, S.", but in all other parts of the Kingdom it has been above the normal. In "Ireland, S." and "Scotland, W." the excess has been 4°, and in "Scotland, E." 5°. The highest of the maxima (which were recorded on the 18th) varied from 50° to 55° over England and from 55° to 56° in Ireland. Over Scotland, where the thermometer was very high during the early part of the day, readings between 55° and 58° were registered. The lowest of the minima occurred on somewhat irregular dates, and ranged from 26° in "England, S." to 33° in "England, N.W." and the "Channel Islands".

Rainfall has been more than the mean over Ireland and in "Scotland, N." but less in all other districts. On the 15th as much as 2·4 ins. of rain fell at Valencia.

Bright sunshine has been more prevalent than it was last week over Great Britain, but less so in Ireland. The percentage of the possible amount of duration ranged from 4 in "Ireland, N." to 21 in "Scotland, E.", 23 in the "Channel Islands", and 27 in "England, S.W."

Barometer and Wind.—During the earlier part of the period the barometer continued highest in the north-eastern part of our area, while some "V" shaped depressions advanced over the United Kingdom from the westward. By the 18th these disturbances had dispersed, and the barometer had risen briskly in the south and west, and had become highest over France and Germany. To the northward of Scotland a large low pressure system was travelling eastwards towards Scandinavia, where pressure was decreasing briskly. At the end of the period the barometer was highest off our western coasts, and low both in the north of Scandinavia and the south-east of France. Southerly to South-Westerly winds were general over our Islands until towards the end of the week, when they shifted to the Westward, and finally to North-West or North. No gales of importance were reported on any part of our coasts excepting on the 18th, when a severe South-Westerly to Westerly gale was experienced in Caithness and the Shetlands.

ERRATUM.—In the "*General Remarks*" for last week read "Southerly or South-Westerly" for "Southerly South-Westerly".

* The corresponding values in last week's Report should be respectively "12" and "− 17" instead of "2" and "− 1" as printed.

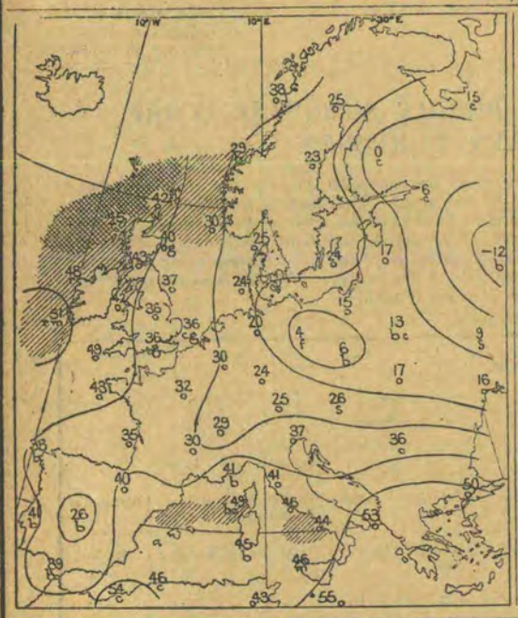
† This value has been altered slightly owing to the receipt of further information.

A 57249. 350.—1/89. Wt. 37. E & S.

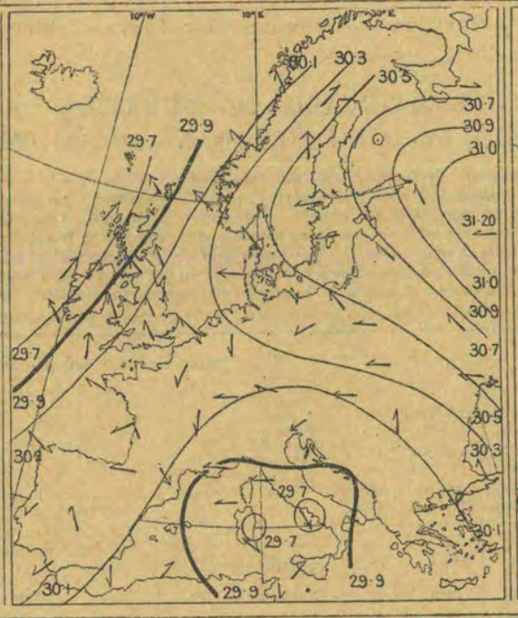
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 15th January.

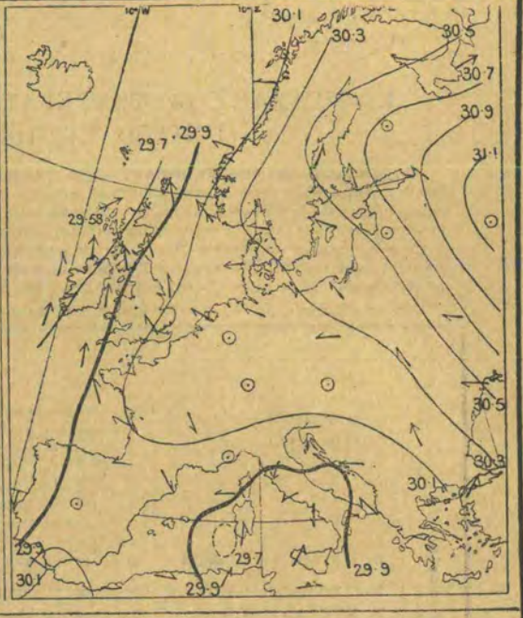
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather fine in Russia, Germany, Spain, and the south of France, but cloudy or overcast elsewhere, with rain in the extreme west and north-west of our Islands, and snow at Kiev, Vienna, and Buda Pesth. Snow falling later in Poland and Eastern Germany, and a thunderstorm with heavy rain (2·2 inches) occurring at La Calle. Heavy rain falling also in the south of Ireland; 2·4 inches at Valencia.

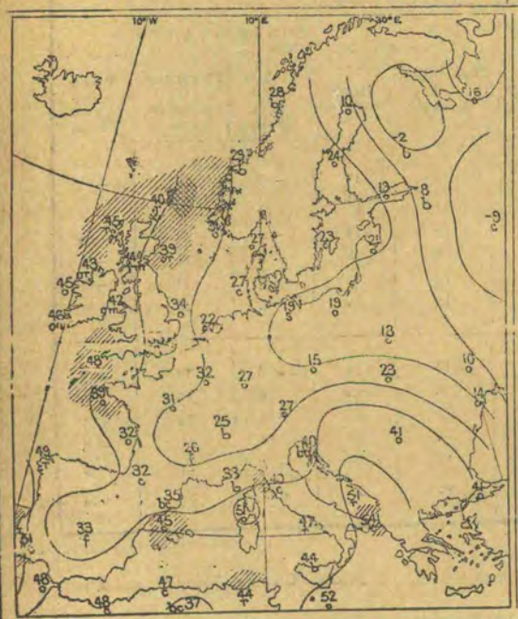
Temperature very low (zero to −12° Fahr.) over Central Russia; below 10° in some parts of Germany and Austria; below the freezing point over Northern and Central Europe generally. A little above 50° in the south of Ireland, as well as at some of the Mediterranean stations, the highest readings of all being 55° at Malta. Slight frost over England at night.

Wind strong from the Southward in the west and north of our Islands, with gales at Stornoway and Mullaghmore. Light or moderate from the South-Eastward in the south-east of England, as well as over the greater part of Scandinavia, Russia, and Germany. Easterly or North-Easterly over France, Spain, and Northern Italy; cyclonic circulation over Mediterranean.

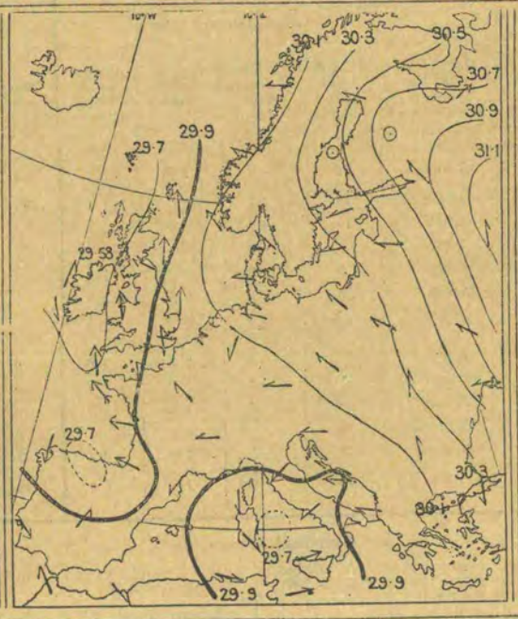
Barometer exceedingly high over Central Russia: reading at Moscow 31·20 ins. Band of high readings extending from Northern and Central Europe across France, the Bay of Biscay, and Spain. Pressure lowest, 29·7 ins. and less, in a large disturbance lying to the westward of our Islands, and also in two small depressions lying respectively near Cagliari and Naples. Rise taking place over Mediterranean later, and small disturbances partially filling up.

Wednesday, 16th January.

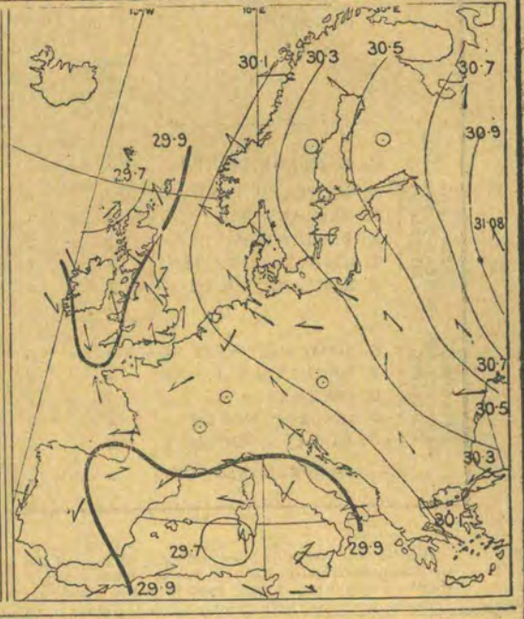
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather fine in Norway, Russia, and the south of France as well as at some of the Mediterranean stations, but cloudy or overcast elsewhere, with rain in the west and north of our Islands as well as at Corunna, Naples, and La Calle; and snow at Copenhagen and in North Germany. Thunderstorms with heavy rain occurring later at some of the Algerian stations.

Temperature very low (zero to −9° Fahr.) over Central Russia; a little below zero in Finland; considerably below the freezing point over Austria and Germany; below 40° in the Riviera. A little above 45° in the extreme west and south-west of our Islands, and above 50° at some of the Mediterranean stations, the highest reading being 54° at Brindisi. Slight frost occurring in some parts of England at night.

Wind strong from the Southward in the west and north of our Islands and from South-East in the west of France; light from East or South-East over Russia, Scandinavia, and North Germany. Cyclonic circulations reported over Spain and the Mediterranean; strong Easterly winds blowing over the Adriatic and Northern Italy. Subsequently veering to the North-Westward in Ireland, and moderating.

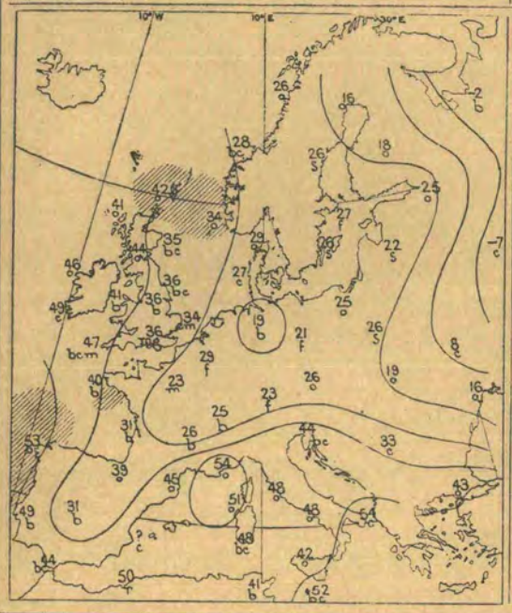
Barometer still very high (31·1 ins. and upwards) over Central Russia, and high (30·3 ins. and upwards) over the whole of Northern and Eastern Europe. Lowest, 29·6 ins. and less, in a large "v-shaped" depression lying over the extreme west of our Islands; low, 29·7 ins. and less, in a small disturbance lying over the north of Spain and also in another lying to the eastward of Sardinia. "V-shaped" depression subsequently moving eastwards, and barometer rising rapidly on our western coasts.

II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 17th January.

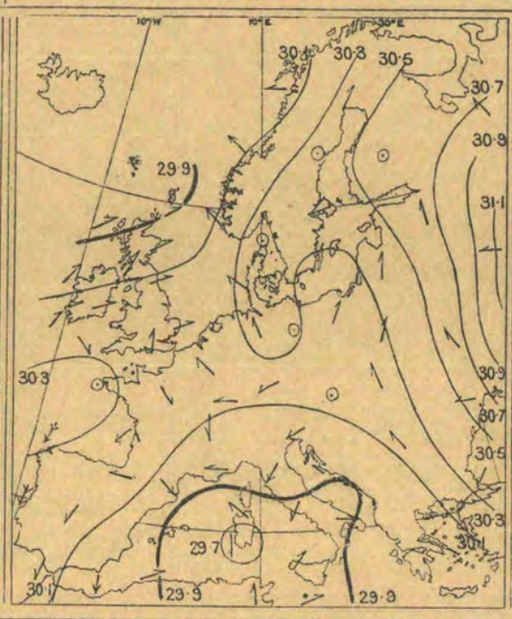
Temperature and Weather.

8 a.m.

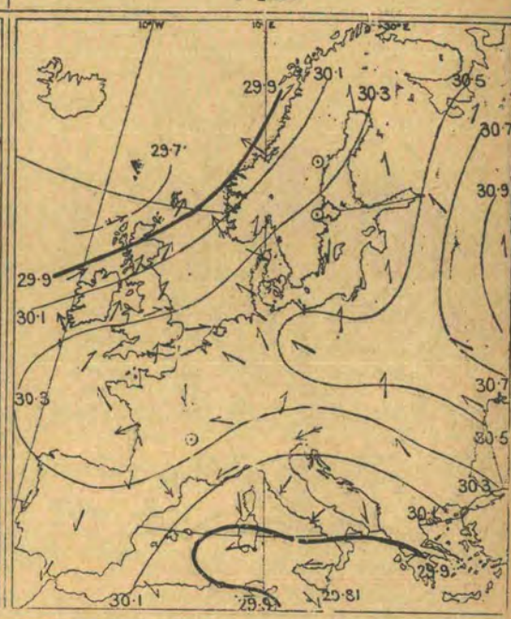


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine in Russia and the central parts of our Islands and France, as well as Eastern Algeria and the southern parts of Italy and Spain. Dull elsewhere, with fog over Central Europe, rain over Western Algeria, and snow over Poland and the Baltic. Rain falling later in the west and north of our Islands, but sky clearing over Northern Italy and the Riviera.

Temperature very low (zero to −7° Fahr.) over Central and Northern Russia; considerably below the freezing point over Sweden, Germany, and Central France, slightly below over Norway, Denmark, and Central Spain. Above 45° in the west of Ireland, and above 50° at some of the Mediterranean stations, highest reading being 54° at Nice and Brindisi. Brisk rise taking place later in the west and north of our Islands.

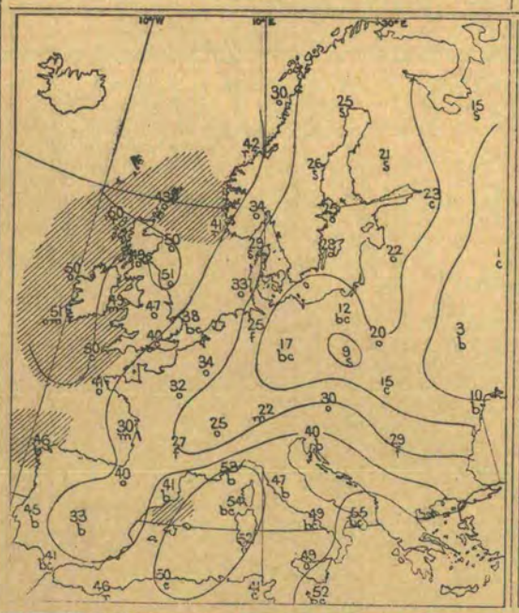
Wind moderate from South-West in Ireland and Scotland; strong to a gale from South-East in the west of Norway; light from South-East or from South over the greater part of Russia. North-Easterly or Northerly over France, Northern Italy, Western Algeria, and the Iberian peninsula, with gales in Portugal; Southerly in Tunis, South-Westerly in Sicily. Subsequently increasing to a gale from South-West in some parts of Ireland and Scotland.

Barometer still very high, 31·0 ins. and upwards, over Central Russia; high, 30·3 ins. and upwards, over the Bay of Biscay; "col." with readings above 30·2 ins. stretching across France and Germany to Russia. Lowest, 29·8 ins. and less in two depressions lying off the coasts of Sardinia and Sicily; low, 29·9 ins. and less off the north of Scotland. Low pressure system to northward of our Islands subsequently becoming more pronounced.

Friday, 18th January.

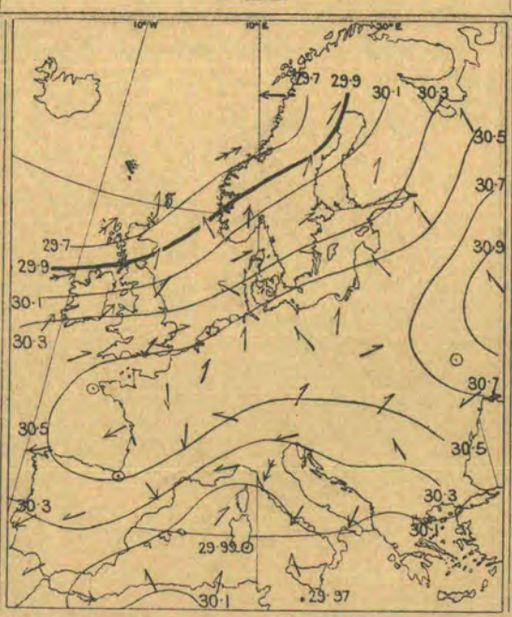
Temperature and Weather.

8 a.m.

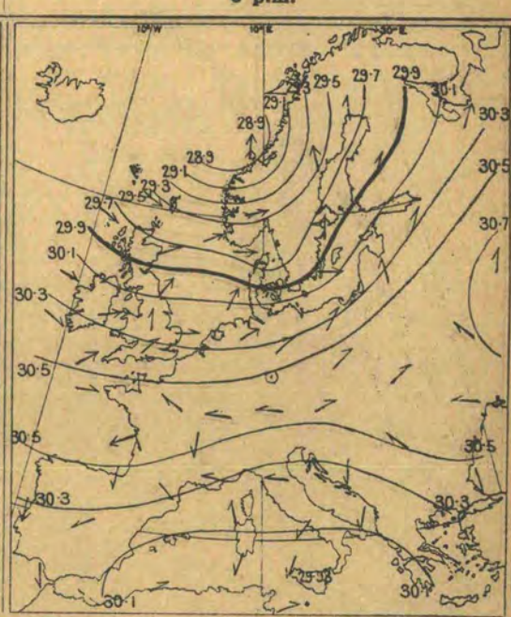


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine over Spain and the Mediterranean, and fair in the south and south-east of England. Cloudy or overcast elsewhere, with rain in the Hebrides and west of Norway and snow over Northern Russia. Rain falling later in all the more western and northern parts of the United Kingdom, and snow continuing to fall at many of the Russian stations.

Temperature low (1° to 10° Fahr.) over Central and Southern Russia; considerably below the freezing point over Finland, the Baltic, Germany, Austria, and Central France. Very high for time of year, 50° to 54°, over Ireland and Scotland; similar readings reported over the Mediterranean, highest being 55° at Brindisi. Brisk rise taking place over England later; maximum readings above 50° in most parts of the United Kingdom, and above 55° in Scotland, highest of all being 58° at Aberdeen.

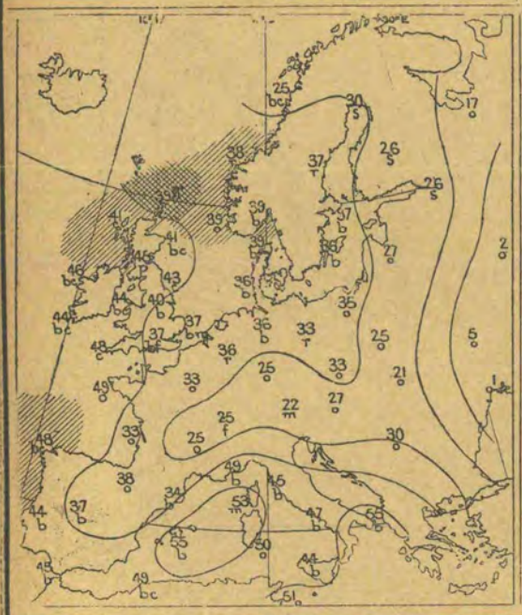
Wind South-Westerly over the United Kingdom, with gales on our extreme north-west coasts. Strong from South in Scandinavia and Denmark; light from South or South-East over the Baltic and Northern Russia. Chiefly North-Easterly over Southern Europe, but varying between South and West in Algeria. Subsequently veering to the Westward in the west and north of the United Kingdom, and increasing to a severe gale in Caithness and the Shetlands.

Barometer still highest, 30·9 ins. and upwards, over Central Russia; band of high pressure, 30·5 ins. and upwards, extending thence across Germany and France to the Bay of Biscay. Lowest, 29·6 ins. and less, in two large depressions lying respectively to the north-westward of Norway and Scotland; 30·0 ins. and less, in three small and shallow disturbances lying over the Mediterranean. Depression to north-westward of Scotland subsequently moving quickly eastwards.

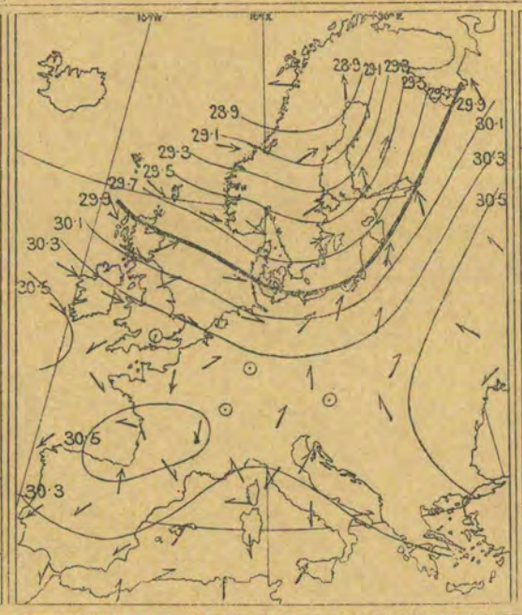
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 19th January.

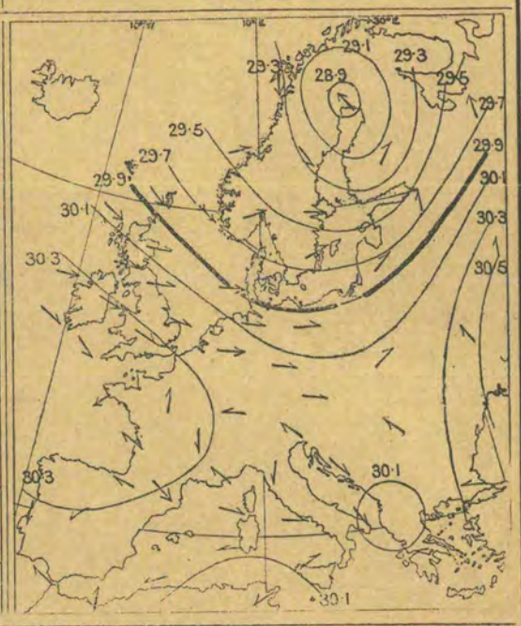
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather fine over our Islands and Denmark, as well as in Algeria and Southern Europe generally. Cloudy or overcast elsewhere, with rain at several of the Scandinavian stations, and snow over Sweden and Finland. A little rain falling at night in many parts of the United Kingdom.

Temperature low (5° to −2° Faht.) over the central and southern parts of Russia; considerably below the freezing point over Germany, Austria, and Central France; below 40° over Northern Italy and the central parts of Spain and Algeria. Above 50° at several of the Mediterranean stations, highest reading being 57° at Malta. Slight frost occurring at night in some of the eastern parts of Great Britain.

Wind strong to a gale from West in Norway, from South-West in Sweden, and from South in Finland. Strong from West or North-West in the north of our Islands; light from the Northward in the south. Moderate from North-East over Spain and the northern parts of the Mediterranean; light from the South-Westward in Algeria. Gales over Northern Europe moderating later, and wind in Scandinavia veering to the Westward or North-Westward.

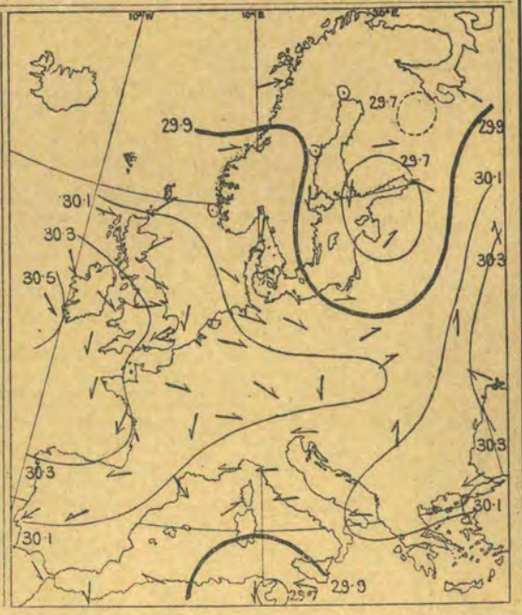
Barometer highest (30·7 ins. and upwards) over Central Russia; high (30·5 ins. and upwards) in an anticyclone lying over the south of France, and also in another lying off the south-west of Ireland. Lowest (28·9 ins. and less) in a large and deep depression lying over the north of Scandinavia; somewhat low (30·2 ins. and less) over Algeria and the southern parts of the Mediterranean. Depression in north subsequently moving eastwards.

Sunday, 20th January.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.**

6 p.m.



Weather fine in Scandinavia, Denmark, and the north of our Islands, as well as in Italy and the south of France. Dull elsewhere, with fog and rain in many parts of England and snow at several of the Russian stations. Rain falling at Nemours and La Calle also. Rain later in most parts of Western Europe. Aurora seen in Scandinavia at night.

Temperature very low (zero to − 8° Faht.) over Central Russia; considerably below the freezing point over Northern Russia; slightly below over Austria, South Germany, and Central France. Varying from 45° to 50° in the west of our Islands; above 50° at some of the Mediterranean stations, highest being 54° at Brindisi. Frost experienced over Central England at night.

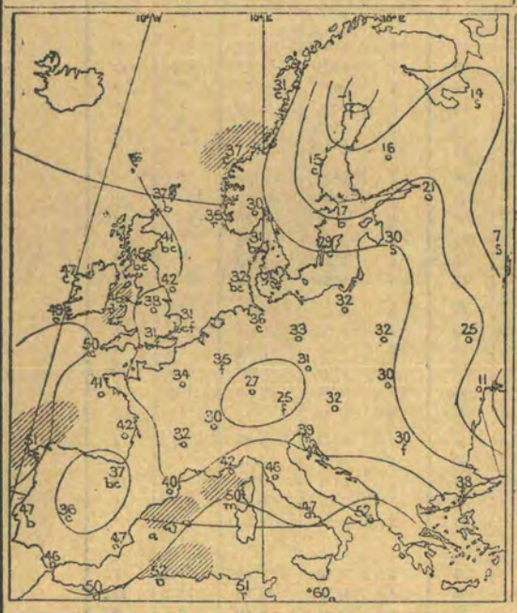
Wind moderate to fresh from the North-Westward or Northward over Scandinavia, our Islands, and the north of France, and North-Easterly over Spain and the western parts of the Mediterranean. Light from the Westward over Central Europe, and from the Southward over the greater part of Russia. Subsequently backing to the westward on our extreme northern coasts.

Barometer still highest, 30·6 ins. and upwards, over Central Russia, high, 30·4 ins. and upwards, in the west of Ireland. Lowest, 29·4 ins. and less, in a small depression lying over the north of Finland; low, 29·5 ins. and less, in another small disturbance lying over the south of that province. Large area, with readings below 30·1 ins., reported over the western part of the Mediterranean; small shallow depression moving southwards over England. Depressions over Finland subsequently becoming shallower, and new depression advancing from Africa to Mediterranean.

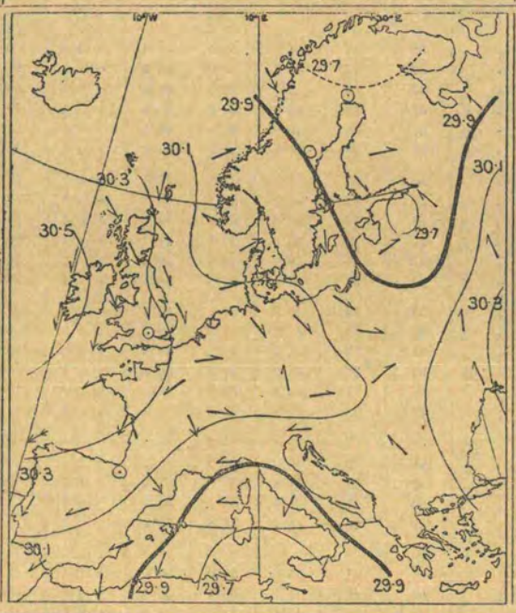
II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 21st January.

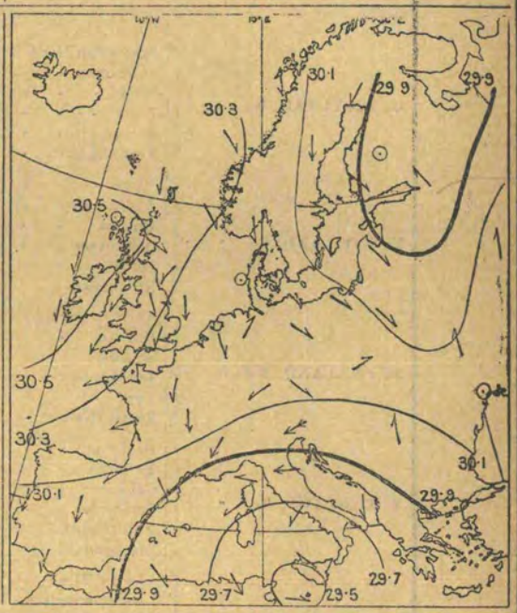
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather fair in Scandinavia, Denmark, the south-west, west, and north of our Islands, and the greater part of Spain. Dull elsewhere, with fog over the Netherlands, South Germany, and the inland parts of England; rain at Skudesnaes, Trieste, and La Calle, and snow over Central and Northern Russia. A little rain falling later in many parts of the United Kingdom, and heavy snowstorm occurring at Turin.

Temperature a little below zero in Lapland (– 2° Fahr. at Uleaborg); below 10° Fahr. over Central Russia; below the freezing point over Sweden, Denmark, and Central Europe. Varying between 45° and 50° in the west of our Islands; a little above 50° at some of the Mediterranean stations,—as high as 60° at Malta. Fall taking place later over the west and north of the United Kingdom.

Wind light from the Northward or North-Westward over the greater part of our Islands as well as over the Baltic, Poland, Algeria, and the north-east of Spain. Moderate North-Easterly in other parts of the Iberian peninsula; calm in Sweden; light Southerly or South-Easterly in Russia. Subsequently increasing to strong breeze from Northward in Sweden and to a gale from the Eastward over the northern parts of the Adriatic.

Barometer now highest, 30·5 ins. and upwards, over the west of Ireland, but still high, 30·4 ins. and upwards, over the south-eastern part of European Russia. Lowest, 29·6 ins. and less, in a small depression lying off the coast of Tunis; low, 29·7 ins. and less, in another small disturbance lying over the Baltic provinces, as well as in a larger area lying over Lapland. Low pressure system in far north subsequently moving eastwards; depression off Tunisian coasts becoming somewhat deeper.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛ = a heavy gale; ➤ = a gale; → = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

In the course of this week the large high pressure area noticed over Russia at the beginning of the year has given way slowly, and apparently moved in a south-easterly direction, while a new system has advanced gradually from the Atlantic, and at the close of the week had spread eastwards as far as Holland and Western Germany. The strong South-Westerly and Southerly winds in the British Islands have consequently given way to light breezes from a northerly direction, and those were spreading more and more to the eastward at the close of the period. With some of the low pressure system, which over Northern Europe preceded this change, strong South-Westerly and Westerly gales were experienced on Friday and Saturday, while the weather over the Mediterranean both at the beginning and end of the week was in a disturbed condition owing to the presence, in the extreme south, of depressions of a somewhat complex character.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.)								Rainfall.			Bright Sunshine.	
		Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
January 14, 1889	York	—	—	—	—	—	—	—	—	—	—	—	2·0	4

III.—DATA from which the SUMMARY on page 13 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	50	34	44·1	38·3	41·3	+ 2·2	6	15	7	1·05	+0·22	*	*
	Stornoway	52	36	47·1	38·9	43·2	+ 4·6	21	9	7	1·93	+0·75	6·7	13
	Wick	57	32	44·7	35·7	40·4	+ 2·3	8	25	7	0·81	+0·36	*	*
	Lairg	57	31	45·7	34·6	40·4	+ 3·4	10	30	6	0·76	−0·03	*	*
	Glencarron	52	33	46·8	37·1	42·1	+ 5·4	21	14	6	2·47†	?	3·0	6
	Fort Augustus	?55	?29	?48·3	?31·9	?40·4	? + 2·7	?18	?42	5	1·05†	?	*	*
1. SCOTLAND, E.	Nairn	56	33	47·1	37·1	42·3	+ 5·1	23	14	5	0·26	−0·19	*	*
	Aberdeen	58	32	45·3	35·1	40·4	+ 3·3	9	28	5	0·25	−0·27	15·7	31
	Braemar	53	32	43·8	33·9	39·1	+ 5·4	5	31	5	0·38	−0·30	6·3‡	12‡
	Ochtertyre	57	29	49·0	32·6	41·1	+ 4·4	20	40	4	0·43	−0·79	*	*
	Leith	56	35	48·1	36·7	42·6	+ 5·1	26	15	4	0·26	−0·19	*	*
	Marchmont	51	32	43·9	33·3	38·8	+ 3·4	5	33	5	0·23	−0·42	10·8	20
2. ENGLAND, N.E.	Alnwick Castle	52	33	43·9	35·1	39·7	+ 2·5	5	27	5	0·21	−0·28	*	*
	Durham	52	30	43·1	34·0	38·7	+ 1·5	3	30	4	0·09	−0·39	9·8	18
	Shields	55	33	45·3	35·3	40·5	+ 2·4	9	27	2	0·06	−0·34	*	*
	Scarborough	53	32	43·3	34·6	39·1	+ 1·5	4	28	1	0·04	−0·38	5·8‡	10‡
	York	55	31	45·7	33·9	40·0	+ 2·0	10	32	1	0·02	−0·40	4·9	9
	Spurn Head	49	33	42·4	35·3	39·0	+ 0·4	1	25	2	0·03	?	*	*
3. ENGLAND, E.	Hillington	48	27	41·6	31·2	36·6	− 0·1	0	38	2	0·14	−0·28	7·6	14
	Yarmouth	48	29	40·3	32·3	36·5	− 1·6	0	39	1	0·13	−0·35	*	*
	Geldeston	49	27	41·8	31·8	37·0	− 1·2	0	35	2	0·11	−0·24	7·5	13
	Cambridge	50	27	42·4	31·1	37·0	− 0·2	1	40	3	0·21	−0·14	6·3	11
	Rothamsted	50	27	41·2	31·8	36·7	− 0·5	0	37	3	0·26	−0·36	*	*
	Ingatestone												*	*
4. MIDLAND COUNTIES	Rawtry (Hesley Hall)	54	31	44·6	34·0	39·5	+ 1·3	7	31	2	0·29	−0·14	3·9‡	7‡
	Loughborough	51	27	44·1	33·4	39·0	+ 1·8	6	33	3	0·17	−0·30	7·3‡	13‡
	Cheadle	54	32	43·8	33·5	38·9	+ 2·3	5	33	3	0·26	−0·36	*	*
	Churchstoke	55	29	45·3	34·0	39·9	+ 2·0	9	32	4	0·12	−0·53	11·0	20
	Hereford	52	29	45·9	31·8	39·1	+ 0·9	11	40	3	0·05	−0·57	*	*
	Cirencester	49	29	42·6	32·7	37·9	− 0·3	2	35	5	0·07	−0·71	9·9	17
	Oxford	51	32	43·4	34·1	38·9	− 0·3	4	30	4	0·07	−0·45	6·0	11
5. ENGLAND, S.	London	52	29	43·1	33·6	38·5	− 0·1	3	31	2	0·19	−0·31	5·0‡	9‡
	Strathfield Turgiss	50	27	42·6	32·4	37·7	− 0·5	2	35	3	0·06	−0·54	*	*
	Dungeness	48	26	42·0	34·6	38·6	− 1·2	0	24	3	0·21	−0·39	*	*
	Hastings (St. Leonard's)	49	32	42·6	34·9	38·9	− 0·5	2	26	4	0·10	−0·55	8·8	15
	Southampton	52	29	45·4	34·7	40·3	+ 1·5	10	30	3	0·04	−0·76	7·6	13
	Hurst Castle	50	32	45·6	35·6	40·8	+ 0·3	10	26	3	0·03	−0·64	*	*
	Stowell	51	30	43·5	33·4	38·7	− 1·0	4	33	4	0·11	?	11·6‡	20‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	55	34	47·5	37·9	42·9	+ 3·8	24	11	7	3·60†	+1·70	*	*
	Glasgow	52	35	45·0	38·1	41·7	+ 3·5	8	17	5	0·65	−0·37	4·8	9
	Ardrossan	50	34	46·9	38·9	43·1	+ 3·9	21	9	6	0·54	−0·48	*	*
	Glenlee	52	29	45·0	36·4	40·9	+ 3·2	8	23	5	1·04	?	*	*
	Douglas (Isle of Man)	52	35	47·1	40·2	43·8	+ 3·5	20	5	6	0·62	−0·50	13·5	25
7. ENGLAND, N.W.	Newton Reigny (Penrith)	52	33	43·5	35·2	39·5	+ 2·4	4	26	3	0·39	−0·48	5·3	10
	Barrow-in-Furness	48	35	45·0	37·7	41·5	+ 1·6	8	18	5	0·31	−0·59	*	*
	Stonyhurst	51	34	43·8	35·5	39·8	+ 1·6	5	25	4	0·48	−0·47	6·8	12
	Blackpool	50	34	45·2	37·0	41·3	+ 1·2	9	21	4	0·16	−0·52	13·0	24
	Manchester	53	33	44·2	35·8	40·2	+ 1·6	6	25	5	0·23	−0·50	*	*
	Liverpool Obsy (Bidston)	54	34	46·0	37·9	42·1	+ 2·6	18	11	4	0·21	−0·29	*	*
	Llandudno	54	36	47·0	41·0	44·1	+ 2·8	19	3	4	0·18	−0·47	9·2	16
	Holyhead	50	40	47·3	41·7	44·6	+ 2·3	19	1	5	0·26	−0·52	*	*
8. ENGLAND, S.W.	Llandovery	50	28	46·7	33·4	40·2	+ 0·4	13	34	5	0·39	−0·86	*	*
	Pembroke	50	39	48·1	42·7	45·5	+ 3·1	25	0	5	0·21	−0·68	13·6	24
	Arlington (N. Devon)	51	33	45·9	35·3	40·8	+ 0·6	11	28	4	0·46	−0·49	*	*
	Cullompton	54	30	47·8	32·7	40·6	− 0·4	16	39	3	0·08	−0·71	17·9	31
	Falmouth	51	40	48·2	41·6	45·0	+ 1·9	23	1	5	0·46	−0·84	14·5	24
	Plymouth	51	35	47·2	37·2	42·4	+ 0·1	23	13	4	0·12	−0·81	16·0	27
	Prawle Point	53	36	48·9	38·0	43·7	+ 1·7	29	11	1	0·01	?	*	*
9. IRELAND, N.	Malin Head	52	34	47·9	41·0	44·6	+ 4·5	22	3	7	0·58	?	*	*
	Londonderry	53	36	49·1	40·3	44·9	+ 3·7	27	5	6	1·02	+0·11	*	*
	Mullaghmore												*	*
	Belmullet	52	39	49·6	43·7	46·8	+ 2·2	34	0	7	1·07	?	*	*
	Markree Castle	52	32	48·8	39·6	44·4	+ 2·3	27	7	6	1·25	+0·47	1·3	2
	Brookeborough	52	30	47·4	36·3	42·1	+ 1·9	25	16	6	2·05	?	*	*
	Armagh	54	35	49·0	38·7	44·1	+ 4·5	29	9	5	0·56	−0·11	2·7	5
	Donaghadee	55	35	48·4	39·3	44·0	+ 3·5	25	8	7	0·65	−0·03	*	*
	Edgeworthstown	53	30	48·6	35·1	42·2	+ 3·0	30	19	6	0·97	+0·32	*	*
10. IRELAND, S.	Dublin	56	36	50·1	41·5	46·0	+ 5·4	30	1	4	0·18	−0·30	5·2	9
	Parsonstown	54	32	50·6	37·0	44·1	+ 4·2	36	14	6	0·41	−0·29	6·6	12
	Kilkenny	54	28	49·6	36·7	43·4	+ 4·2	32	15	6	0·48	−0·33	*	*
	Waterford	51	30	49·1	38·9	44·2	+ 2·9	28	9	4	0·52	−0·58	*	*
	Roche's Point	52	35	50·4	41·4	46·1	+ 3·4	31	2	5	1·44	+0·16	*	*
	Valencia	53	37	51·4	43·4	47·6	+ 2·5	39	0	5	2·61	+1·09	8·9	16
	Killarney	54	31	50·8	39·1	45·2	+ 2·0	35	8	6	2·30	?	*	*
	Foynes	55	39	50·4	41·9	46·3	+ 4·9	31	0	4	1·15	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	54	43	51·0	45·7	48·5	+ 2·4	46	0	5	0·67	−0·23	*	*
	Jersey	52	33	46·7	36·0	41·6	− 0·5	13	26	4	0·16	−0·56	14·3	23

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked S with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, and Laudale being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the first and second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

NOTE.—*Bright Sunshine.* The note inserted in last week's Report should read:—"The values are now given in hours and tenths."

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 4.] *Third Series.* WEEK ENDING MONDAY, 28TH JANUARY, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 24.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
	0. SCOTLAND, NORTH	51	26	46·3	35·7	41·7	4 above.	12	+ 6	23	−11	35	+14	102	−41
Principal Wheat-producing Districts.	1. SCOTLAND, EAST	53	23	47·9	34·8	41·6	5 above.	17	+10	31	−11	33	+11	136	−45
	2. ENGLAND, N.E.	51	27	45·8	34·6	40·4	2 above.	11	+ 4	30	− 8	17	− 4	137	−30
	3. ENGLAND, EAST	52	28	44·6	32·6	38·8	1 above.	7	− 1	36	− 5	7	−17	201	+19
	4. MIDLAND COUNTIES	51	25	44·7	34·2	39·5	1 above.	8	− 1	30	−12	14	−19	189	+ 7
	5. ENGLAND, SOUTH	51	26	44·5	34·5	39·7	0 (average).	7	− 3	29	− 4	12	−23	151	+ 5
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	51	20	46·9	36·8	42·1	3 above.	23	+14	15	−15	47	+16	80	−62
	7. ENGLAND, N.W.	50	23	45·5	36·5	41·2	1 above.	10	+ 2	23	− 7	19	−10	103	−40
	8. ENGLAND, S.W.	53	27	45·9	37·9	42·0	0 (average).	11	− 7	11	− 7	40	−21	85	− 4
	9. IRELAND NORTH	52	24	47·0	38·5	42·9	2 above.	21	+ 9	10	−17	53	+ 8	85	−36
	10. IRELAND, SOUTH	53	33	47·5	40·4	44·1	2 above.	21	+ 1	4	−14	76	+ 2	61	−27
	— CHANNEL ISLANDS	54	35	47·8	42·0	45·0	1 above.	21	0	0	−10	90	+14	17	−34

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 24.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
	0. SCOTLAND, NORTH	5	11	3 less.	19	0	3·4	−0·1	7	14	21	− 5	11	− 2
Principal Wheat-producing Districts.	1. SCOTLAND, EAST	2	1	6 less.	12	0	1·0	−1·7	19	34	44	− 4	22	− 2
	2. ENGLAND, N.E.	2	1	3 less.	12	−1	1·0	−0·9	22	39	36	+ 8	17	+ 4
	3. ENGLAND, EAST	2	less than ½	4 less.	10	−4	0·7	−1·1	16	27	34	− 7	15	− 3
	4. MIDLAND COUNTIES	2	1	6 less.	10	−3	0·8	−1·5	12	21	33	+ 1	15	+ 1
	5. ENGLAND, SOUTH	2	1	5 less.	10	−3	0·7	−1·8	13	21	38	+ 5	16	+ 2
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	4	9	4 less	15	0	3·4	−1·9	11	19	27	− 2	13	− 1
	7. ENGLAND, N.W.	4	3	4 less.	11	−3	0·9	−2·2	13	22	36	+ 4	17	+ 2
	8. ENGLAND, S.W.	2	4	7 less.	10	−5	1·6	−2·5	6	9	47	+ 6	20	+ 2
	9. IRELAND, NORTH	5	4	3 less.	18	+1	2·8	−0·2	3	5	21	−21	10	− 9
	10. IRELAND, SOUTH	4	5	6 less.	15	−1	3·6	−0·3	5	8	37	−13	17	− 6
	— CHANNEL ISLANDS	2	2	5 less.	12	−4	1·5	−1·8	5	8	72	+16	30	+ 6

General Remarks.

Weather has been somewhat fairer than of late in most parts of the Kingdom, but in Ireland and the south-west of England the sky has been very dull, with occasional (but generally slight) falls of rain. Fog was experienced at times in different parts of the Kingdom.

Temperature has about equalled the mean in "England, S." and "England, S.W.", but in all other districts it has been above; in Scotland the excess has varied from 3° to 5°. The highest of the maxima, which were recorded on the 25th in most parts of Scotland, and on the 26th at the English and many of the Irish stations, ranged from 50° in "Scotland, W." to 54° in the "Channel Islands". At Ochtertyre the thermometer on the 23rd reached 57°. The lowest of the minima were registered on the 27th, when temperature fell to 20° in "Scotland, W." and to between 23° and 28° in most other districts; in "Ireland, S.", however, the lowest reading was 33°, and in the "Channel Islands" 35°.

Rainfall has been less than the mean in all districts. Over the greater part of England and in the east of Scotland the fall has been extremely slight.

Bright sunshine shows a decrease in Ireland, the south-west of England, and in the "Channel Islands", but a decided increase elsewhere. The percentage of the possible amount of duration was as high as 27 to 39 over the north-east and east of Great Britain, while in Ireland, the south-west of England, and the "Channel Islands" it was as low as 5 to 9.

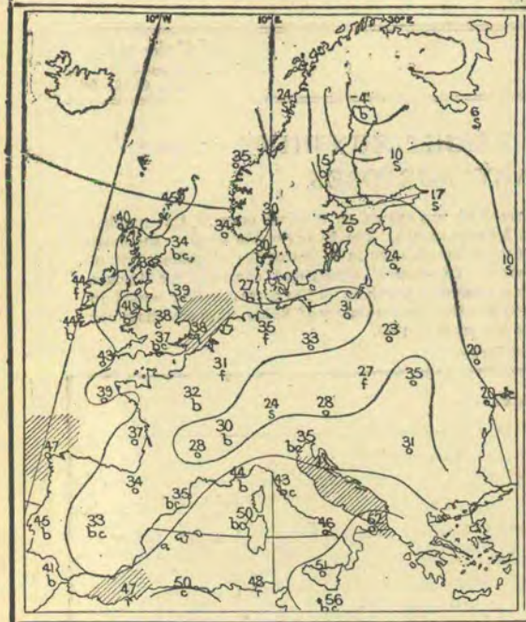
Barometer and Wind.—During the greater part of the period the barometer over our Islands was high and the distribution anticyclonic, but towards the end of the time the mercury fell very generally and the area of highest readings became established over France and Germany. To the northward of Scotland and over Scandinavia some large depressions travelled eastwards, while at the end of the period there were signs of disturbances advancing from the Atlantic to our western coasts. Light breezes from between North-West and North-East were general during the prevalence of the anticyclone over our Islands, but as it moved south-eastwards the wind backed to the Westward or South-Westward and increased somewhat in force. Over Scandinavia strong Westerly to North-Westerly winds and gales were experienced.

A 57341. 350.—1/89. Wt. 37. E & S.

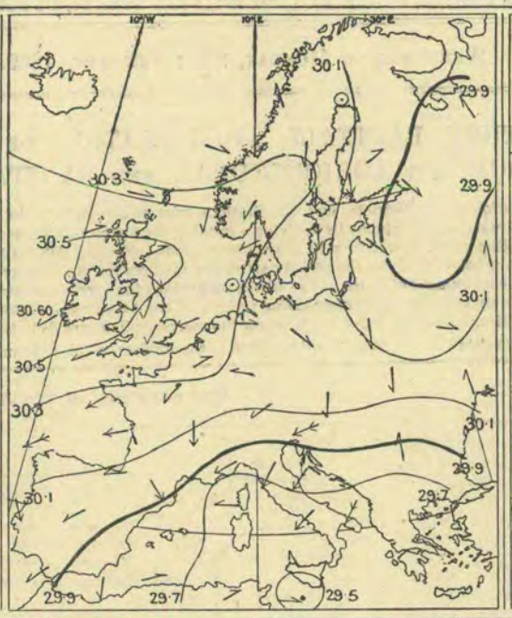
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 22nd January.

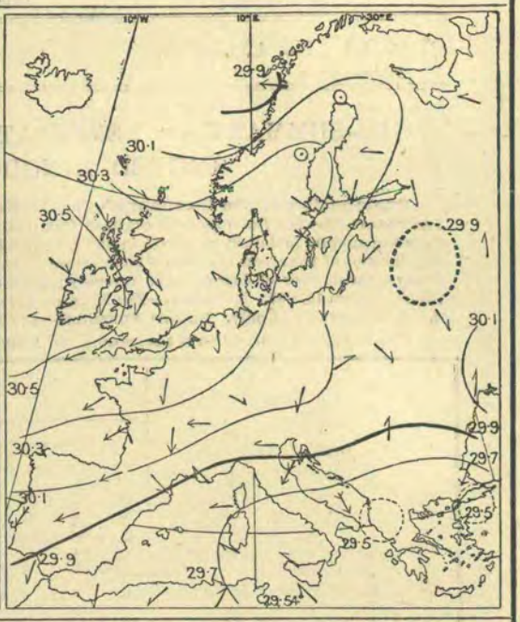
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather quiet, but rather cold over the British Isles, France, and Central Europe generally; clear in some places, cloudy or foggy in others. Snow falling over Finland and Northern Russia, and in some parts of the north of Italy; rain in Algeria. Considerable quantities of rain during the day at the Algerian stations, and at Constantinople later; smaller quantities in the extreme north-west of Europe.

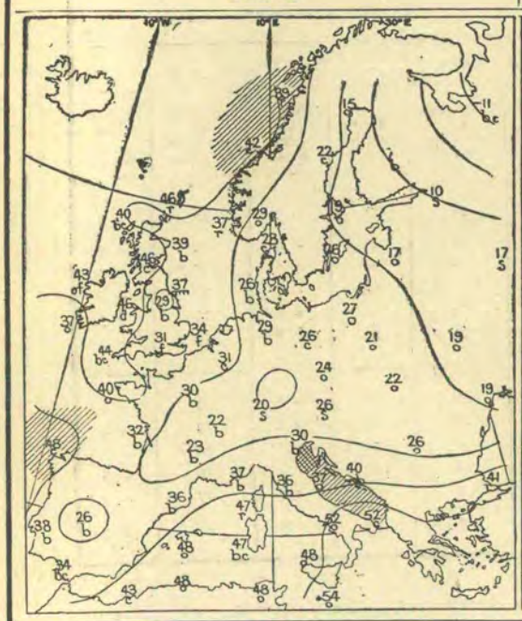
Temperature below zero Faht. at the northern extremity of the Gulf of Bothnia, and much below the freezing point over Eastern and Central Europe generally; less cold in France, but very little above the freezing point even over Central Spain. Readings over the north-eastern shores of the Mediterranean varying from 40° to 45°, but ranging from 48° to 51° on the southern shores, and rising to 56° at Malta. Continuing low over the British Islands all day, except in the west and north.

Wind very light and variable over Central Russia; but Northerly to North-Easterly breezes prevailed over the greater part of Northern and Western Europe, blowing very freshly over some parts of the Baltic, the British Islands, and the Bay of Biscay. In the extreme north-west a "backing" noticed later. Strong North-Easterly winds and gales prevalent over Italy and the Adriatic, and moderate North-Easterly in Spain, but Westerly breezes over Algeria and at Malta.

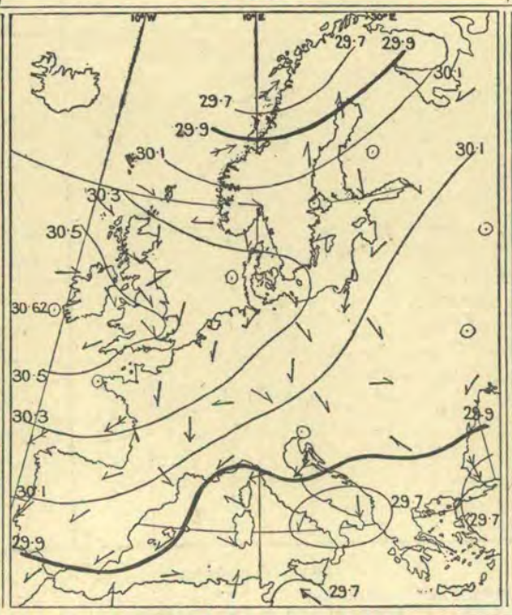
Barometer still falling over Eastern and rising over Western Europe. The Atlantic high pressure area spreading slowly to the eastward as a "ridge" over Central Europe; the depressions over Northern Europe passing eastwards and filling up, but disturbances still holding over the eastern parts of the Mediterranean and Turkey in Asia, although showing a tendency to move eastwards. A new depression appearing off the western extremity of Lapland later.

Wednesday, 23rd January.

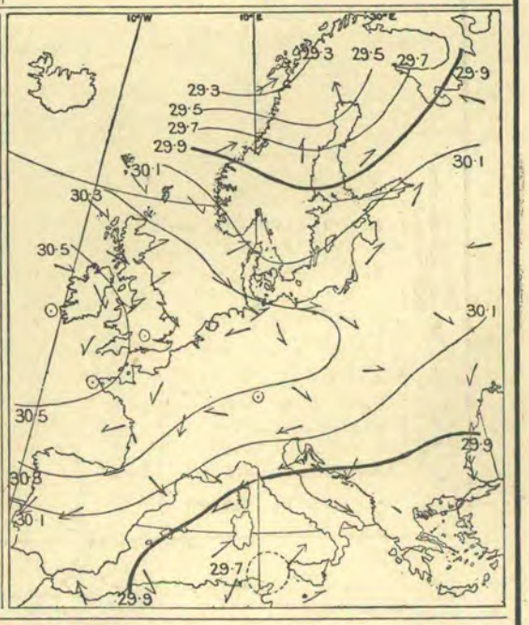
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather continuing quiet over the British Islands, France, and Germany, with fog in several places; unsettled over Northern Europe, with rain in Norway, snow over Finland and Northern Russia. Fine and bright on the northern shores of the Mediterranean, rainy and unsettled in Algeria and Turkey. Rainfall slight during day, except in the regions last named, where it was heavy.

Temperature low over Eastern and Central Europe, not very different from the average in the west. Lowest readings (6° to 10° F.) over Russia; much below the freezing point over Austria, and Central Germany, and rather so over England. Rising somewhat in the north-west later, but falling over England at night.

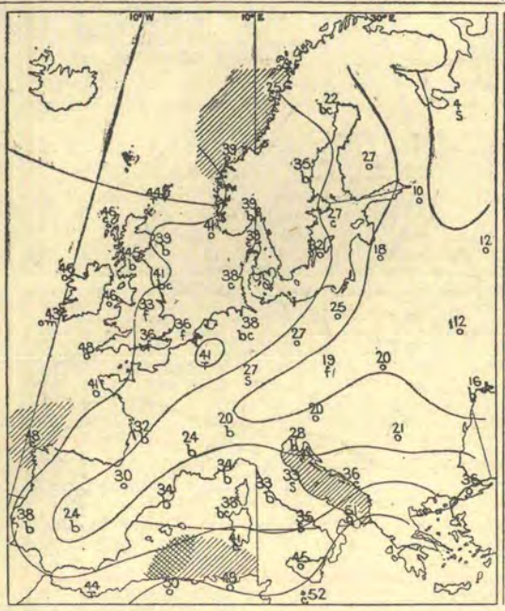
Wind North-Easterly, strong, over the Bay of Biscay; Northerly over our Islands, the Baltic, and Western Germany (strong to a gale in the latter region); Southerly over Central Russia. Northerly gales and strong winds prevailing over Italy, and Southerly winds in Algeria. Gale over Germany moderating later, but strong South-Westerly gales setting in over the Baltic and Scandinavia, and North-Easterly gales over Spain.

Barometer continuing high (30·3 ins. to 30·6 ins.) over Western and Central Europe. Depressions still found over the Mediterranean, but inclined to fill up. Large depression approaching Lapland during the day, moving south-eastwards, and spreading out considerably towards the Baltic later.

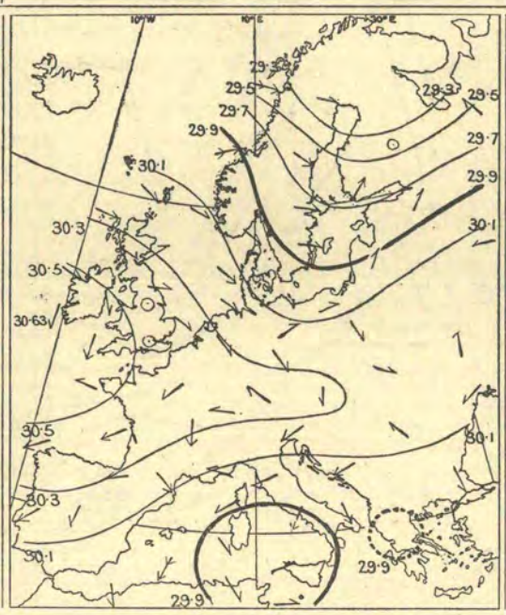
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 24th January.

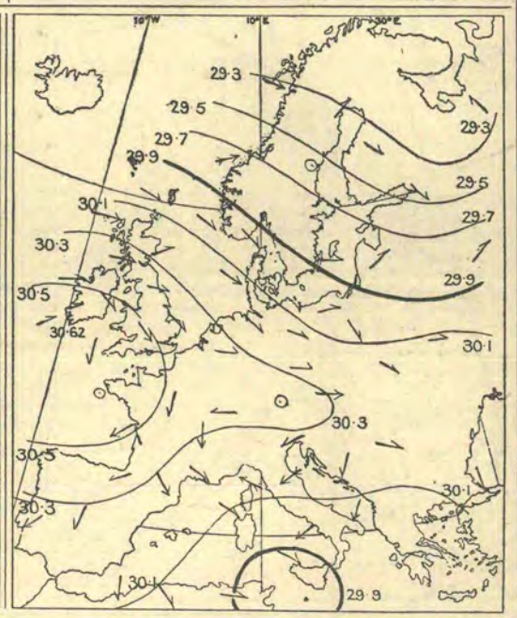
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather very little changed over the British Isles, France, and Germany (excepting some increase of temperature in our Islands); continuing rainy over Algeria, Sicily, and at Constantinople, and rather showery in Norway and the north-west of the British Isles; slight rain in the Netherlands later.

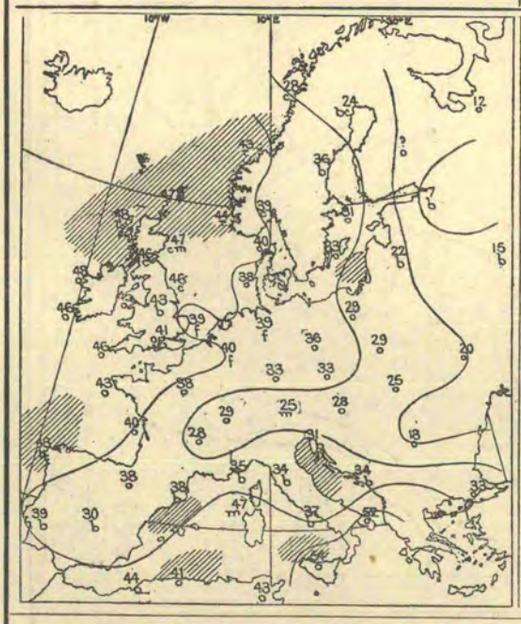
Temperature still low over Russia and Central Europe, but less low than of late over the North Sea and British Islands. Frost very prevalent in the inland Continental districts, but no morning reading reported lower than 4° F., at Archangel.

Wind showing no material change in the British Islands, France, and Germany, where it was light and variable, though chiefly Northerly. South-Westerly and Westerly gales still prevalent over the northern countries. Strong Northerly to North-Easterly winds and slight gales over Northern Italy and at Algiers. The latter continuing all day, while the wind in the north veered to North-West, and moderated.

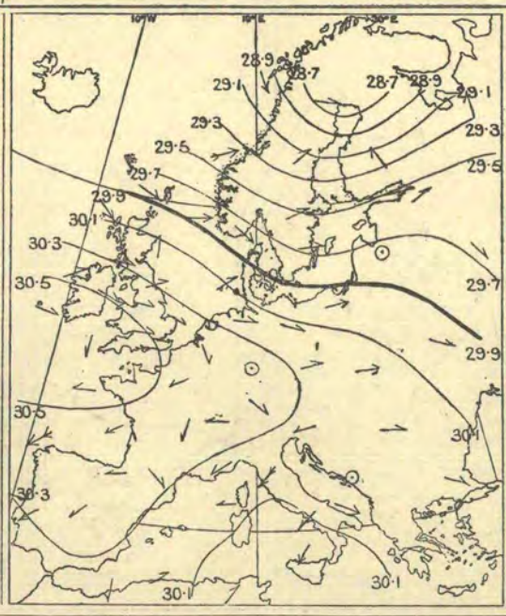
Barometer continuing high over the western and central countries, and a "ridge" extending from France across South Germany to Southern Russia. Large depression over Lapland and Finland, and a less deep system over the Mediterranean; the former moving steadily to the eastwards, the latter undergoing little change. The anticyclonic system in the west showing signs of moving southwards later in the day.

Friday, 25th January.

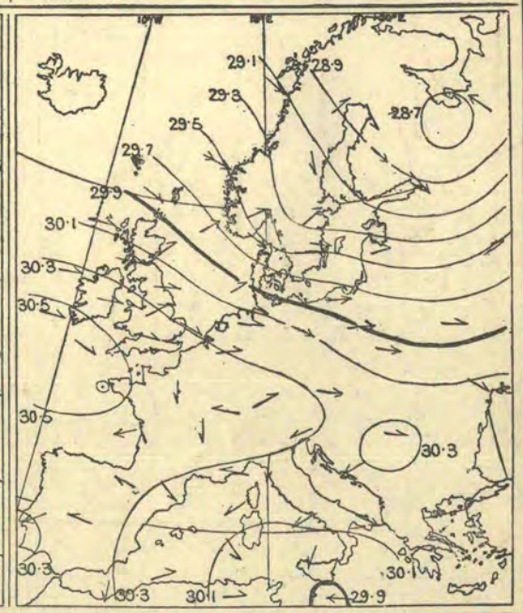
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather remaining quiet over our Islands, France, and Germany, with fogs locally, but less cold than of late; unsettled generally over the north of Norway, though fine and bright at first in Sweden and Finland; fine and dry over Italy and the south of France, rainy over Algeria, with snow at Aumale. Little change in our Islands later.

Temperature increasing except in the south; still low over Russia, Austria, Germany, France, and Central Spain; below 40° in the northern parts of Italy as well as at Nice and Perpignan; and as low as 31° at Trieste, 32° in Rome, and 33° at Florence.

Wind blowing a gale from between South-West and West over the Baltic and Norway, and a strong breeze from North-West at the most northern stations of our own Islands. Westerly winds becoming more general over the United Kingdom, and the North-Easterly winds in the south moderating except over the eastern parts of the Mediterranean. Westerly gales subsequently spreading to the southern shores of the Baltic and to Poland, while the North-Easterly gales in the far south lulled considerably.

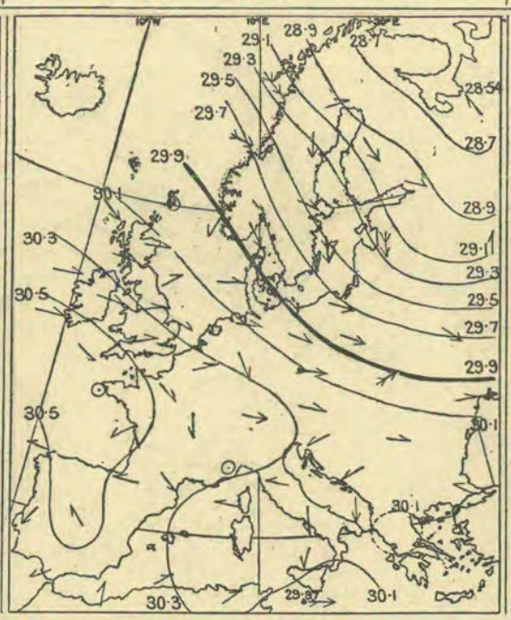
Barometer falling unsteadily over all the northern countries; rising in the south and east. The high pressure area in the west still tending to move southwards and to spread eastwards. A new and deep depression found over Lapland, while the disturbance over the Mediterranean was moving south-eastwards, and apparently filling up.

II.—SUMMARY OF WEATHER OVER EUROPE.

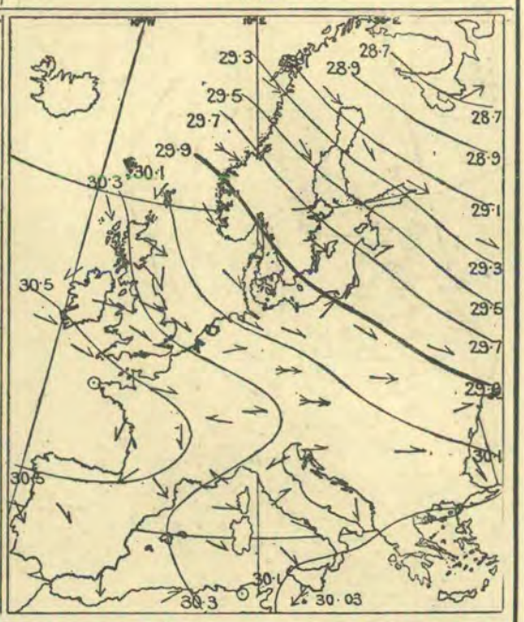
Saturday, 26th January.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine over Southern Europe, as well as in Sweden, Finland, Denmark, and the south-east of England; dull elsewhere, with rain in the extreme north-west of our Islands and also in some parts of Germany; snow falling at Archangel and Christiansund. Snow and sleet showers experienced in Scotland during day.

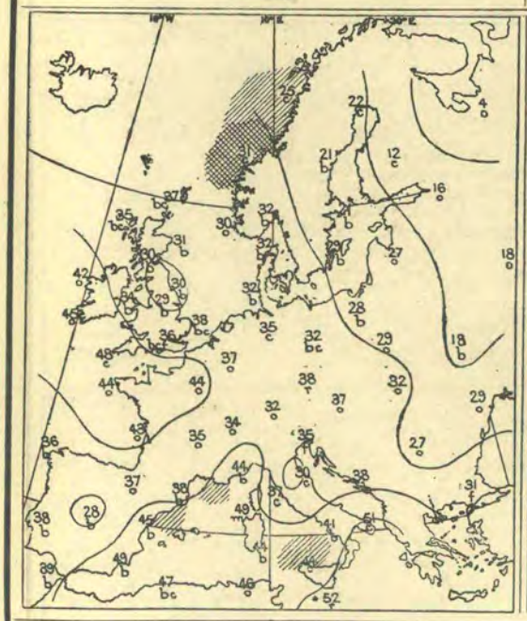
Temperature low (4° to 8° Faht.) over Finland; several degrees below the freezing point over the south of Russia, and also over Central Spain; slightly below in the east of France. Above 45° over the western and central parts of Great Britain, as well as at some of the Mediterranean stations; highest reading 54° at Malta. Frost occurring at night in many parts of Great Britain.

Wind strong to a gale from North-West in the west of Norway, from North over the Baltic, and from West over Poland and Eastern Germany. Moderate from West or North-West over our Islands, the Netherlands, and Western Germany, and from between North and East over Southern Europe. Moderate from West in Algeria; strong to a gale from the same quarter at Malta. Subsequently veering to North or North-east in the extreme north and north west of our Islands.

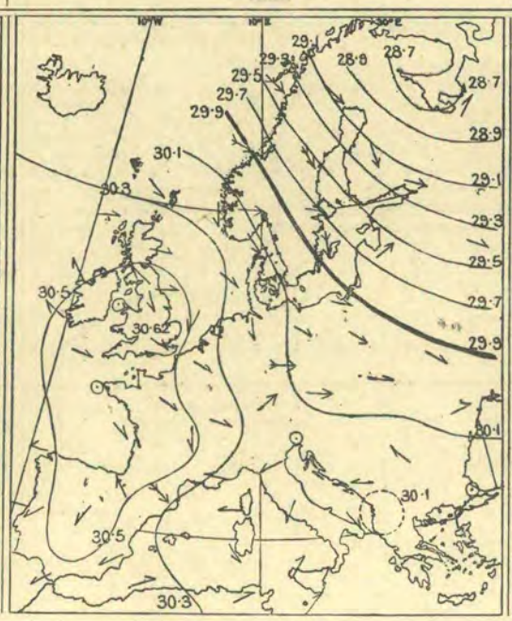
Barometer highest, 30·5 ins. and upwards, in an anticyclone lying over the Bay of Biscay, our extreme south-west coasts, the west of France, and the north of Spain. Lowest, 28·6 ins. and less, in a depression lying in the neighbourhood of the White Sea; small disturbance, with readings below 30·0 ins., lying near Malta. Shallow depressions appearing later over our northern coasts, and moving south-eastwards.

Sunday, 27th January.

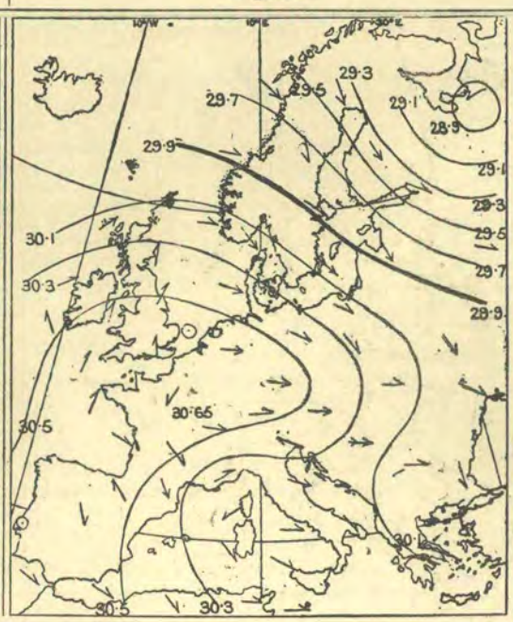
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather dull in the extreme west and south-west of our Islands, and also over the greater part of Russia and Austria, with rain at Prague and snow at Breslau; fair or fine in most other parts of Europe. Rain setting in later in the north of our Islands, and heavy snow falling in the west of Norway, but sky clearing in Russia.

Temperature several degrees below the freezing point over Sweden and Russia (lowest reading 4° F. at Archangel), and slightly below over Great Britain, Germany, Central Spain, and Northern Italy. Above 45° in the extreme south-west of our Islands, and also over the central and southern parts of the Mediterranean, highest reading of all being 52° at Malta. Decided rise taking place later in the extreme north and north-west of our Islands.

Wind strong to a gale from the North-Westward over Scandinavia and the Baltic; moderate from the same quarter or from West over Russia, Central Europe, and the North Sea. Anticyclonic circulation of light breezes reported over our Islands; two or three cyclonic circulations over the Mediterranean. Strong South-Westerly winds setting in later in the extreme North-West of our Islands.

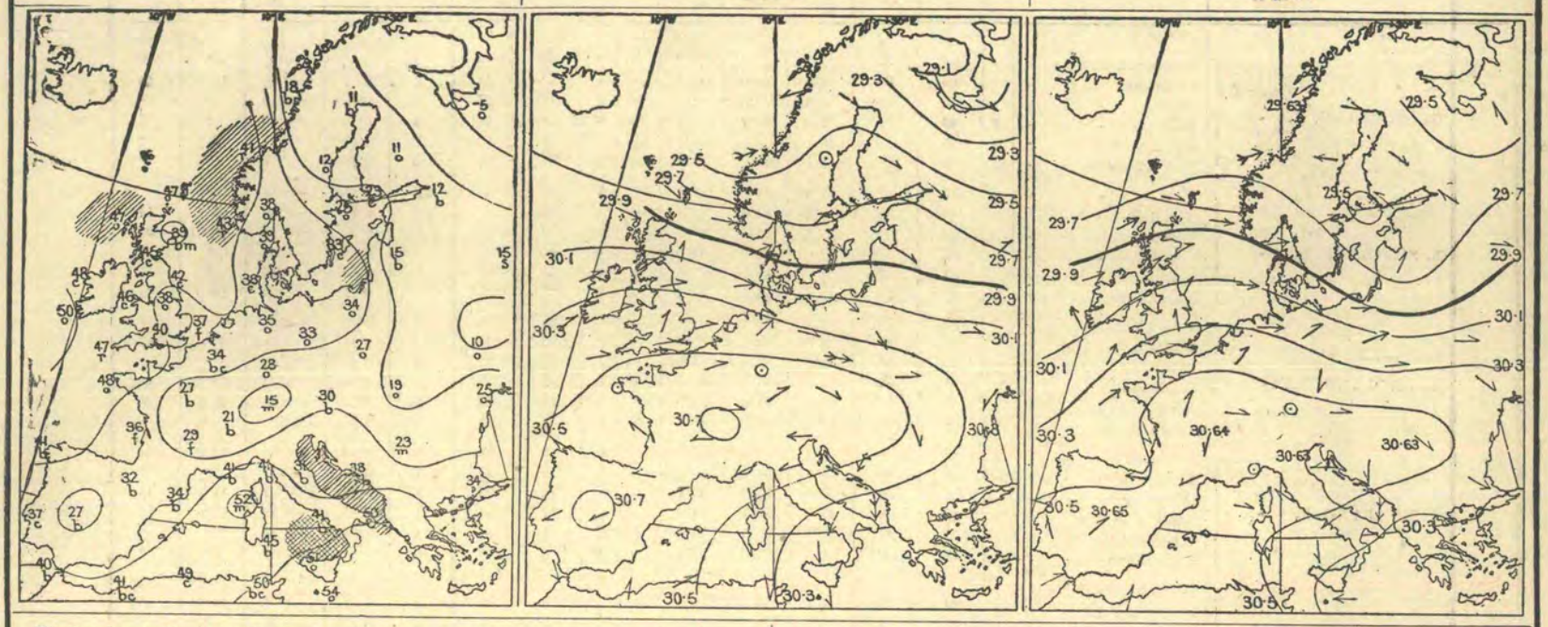
Barometer highest, 30·6 ins. and upwards, over Central England and the west of France; high, 30·5 ins. and upwards, in a large anticyclone covering the greater part of Western Europe. Lowest, 28·8 ins. and less, in a depression lying over the White Sea; shallow depressions lying over the Mediterranean in the neighbourhood of Italy and the south of France. Anticyclone over Western Europe, subsequently moving southwards, and depression appearing to north-westward of Scotland.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 28th January.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine in the east of Scotland and some parts of Russia, as well as over the whole of Southern Europe. Cloudy or overcast elsewhere, with passing showers in the south of England, and rain in the west of Norway. Rain setting in at night on the west coasts of our Islands, and snow falling over the Baltic provinces.

Temperature below zero in the neighbourhood of the White Sea (reading at Archangel −5° Faht.); many degrees below the freezing point in Lapland, Finland, and Central Russia; slightly below over Germany and the central parts of France and Spain. Above 45° in the extreme south-west of our Islands, and above 50° at several of the Mediterranean stations, the highest reading of all being 54° at Malta. Subsequently rising a little above 50° in many parts of England and Ireland.

Wind South-Westerly in our Islands; Westerly over Scandinavia, Russia, Austria, and North Germany; moderate in force in most places, but strong to a gale at Christiansund. Very strong from North-East or North over the Adriatic and Southern Italy; light or moderate from East in the south of France. Subsequently backing to the Southward in the west of Ireland, and increasing in force to a moderate gale.

Barometer highest, 30·7 ins., at Lyons and Madrid; 30·6 ins. and upwards over the whole of Spain, France, and South Germany. Lowest, 29·1 ins. and less, in a depression lying near the White Sea; 29·3 ins. and less in another disturbance lying off the west of Norway; 30·2 ins. and less over the eastern parts of the Mediterranean. Fresh depression beginning to appear off our west coasts later, and barometer falling briskly at all our western and northern stations.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟹ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

The large high pressure system, which was spreading over Western Europe from the Atlantic at the close of last week, maintained its position with very little modification until Saturday, when it began to move south-eastwards, and at the close of this week covered the whole of Spain, France, South Germany, Austria, and the western parts of the Mediterranean. As this change took place Westerly and South-Westerly winds spread over Northern Europe and the British Islands, accompanied milder and damper weather than had been experienced previously, and the North-Easterly gales recently prevailing over Italy and the Adriatic showed signs of dying down. Although temperature rose decidedly in the north-west, frost continued prevalent over Eastern and Central Europe, and at 8 a.m. on the 28th the thermometer was as low as −5° Faht. at Archangel. Some large depressions have advanced over Northern Europe from the Atlantic during the week, and have spread southwards over Russia and the Baltic in the form of a "hollow."

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
January 21, 1889 - - -	Ingatestone - - - -	50	28	41·2	32·8	37·2	− 0·5	0	34	2	0·12	−0·28	*	*

III.—DATA from which the SUMMARY on page 19 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	48	30	45·7	37·3	41·7	+ 2·6	10	20	7	0·57	−0·25	*	*
	Stornoway	50	30	47·4	38·0	42·9	+ 4·1	23	11	7	0·97	−0·20	10·4	20
	Wick	51	30	47·0	35·6	41·5	+ 3·2	14	27	3	0·30	−0·16	*	*
	Lairg Ⓢ	48	27	45·6	35·7	40·9	+ 3·9	10	26	4	0·19	−0·59	*	*
	Glencarron Ⓢ	47	28	45·1	37·3	41·4	+ 4·7	9	20	7	3·64†	?	3·7	7
	Fort Augustus Ⓢ	49	26	47·1	36·2	41·9	+ 4·0	14	26	4	0·71†	?	*	*
1. SCOTLAND, E.	Nairn	53	31	48·4	37·3	43·1	+ 5·5	27	13	2	0·03	−0·41	*	*
	Aberdeen	53	30	47·1	34·6	41·1	+ 3·8	14	31	3	0·17	−0·39	23·2	43
	Braemar Ⓢ	49	24	46·4	33·3	40·1	+ 6·4	12	35	3	0·16	−0·54	16·3‡	30‡
	Ochtertyre Ⓢ	57	23	51·4	34·3	43·2	+ 6·4	41	22	1	0·20	−1·05	*	*
	Leith	51	27	47·9	35·1	41·8	+ 3·8	17	30	2	0·12	−0·33	*	*
	Marchmont Ⓢ	49	26	46·3	34·1	40·4	+ 4·8	12	32	2	0·07	−0·58	16·5	29
2. ENGLAND, N.E.	Alnwick Castle	51	29	47·1	36·7	42·1	+ 4·5	23	15	2	0·17	−0·34	*	*
	Durham	50	27	46·8	33·4	40·4	+ 2·6	13	36	2	0·14	−0·33	26·6	47
	Shields	50	29	46·7	35·6	41·4	+ 3·1	13	27	1	0·15	−0·25	*	*
	Scarborough Ⓜ	48	31	44·4	34·4	39·6	+ 1·7	7	30	4	0·10	−0·32	23·2‡	40‡
	York	50	28	46·3	31·4	39·2	+ 1·0	12	43	2	0·05	−0·38	17·1	29
	Spurn Head	46	34	43·7	35·9	39·9	+ 1·1	5	23	2	0·04	?	*	*
3. ENGLAND, E.	Hillington Ⓜ	48	29	43·7	31·8	38·0	+ 0·8	5	39	3	0·04	−0·38	14·2	24
	Yarmouth	48	30	43·4	32·9	38·4	− 0·5	4	35	1	0·01	−0·47	*	*
	Geldeston	50	30	46·3	33·4	40·1	+ 1·4	12	35	3	0·11	−0·27	11·1	19
	Cambridge	52	28	45·9	30·7	38·6	+ 0·6	11	44	1	0·03	−0·32	21·9	37
	Rothamsted	51	29	43·9	33·9	39·1	+ 1·4	5	31	1	0·06	−0·46	*	*
	Ingatestone	51	30	44·2	32·6	38·6	+ 0·4	6	36	0	—	−0·40	*	*
4. MIDLAND COUNTIES	Rawtry (Hesley Hall)												14·2‡	24‡
	Loughborough	51	29	46·3	33·0	39·9	+ 1·9	12	36	1	0·01	−0·48	16·8‡	28‡
	Cheadle Ⓜ	48	28	43·9	35·1	38·7	+ 1·6	5	20	3	0·05	−0·58	*	*
	Churchstoke Ⓜ	49	25	44·7	35·0	40·0	+ 1·7	8	27	2	0·05	−0·61	9·5	16
	Hereford Ⓜ	48	28	45·5	33·9	39·9	+ 1·0	10	32	2	0·06	−0·55	*	*
	Cirencester	46	30	43·3	34·3	39·0	+ 0·5	4	29	3	0·16	−0·59	8·9	15
	Oxford	48	30	44·7	34·6	39·6	+ 0·5	8	32	1	0·01	−0·50	9·7	16
5. ENGLAND, S.	London	51	30	44·3	33·6	39·2	0·0	6	33	2	0·02	−0·47	6·7‡	11‡
	Strathfield Turgiss Ⓜ	49	29	43·6	31·4	37·7	− 0·9	4	40	2	0·11	−0·48	*	*
	Dungeness	51	26	44·9	33·0	39·2	− 0·9	8	35	4	0·13	−0·46	*	*
	Hastings (St. Leonard's)	50	30	45·0	35·0	40·2	+ 0·2	8	28	2	0·11	−0·51	20·4	33
	Southampton	50	31	45·6	36·2	41·1	+ 2·0	10	24	2	0·06	−0·73	11·5	19
	Hurst Castle	48	31	44·9	36·6	40·9	+ 0·2	8	22	1	0·03	−0·56	*	*
	Stowell Ⓜ	48	32	43·5	35·4	39·6	− 0·6	4	25	2	0·11	?	12·4‡	20‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	51	35	47·6	40·2	44·1	+ 5·0	22	5	7	2·03†	+0·09	*	*
	Glasgow	48	28	46·1	36·5	41·5	+ 3·1	11	24	3	0·55	−0·46	6·7	12
	Ardrossan	50	28	47·3	36·7	42·2	+ 2·9	24	15	5	0·58	−0·41	*	*
	Glenlee Ⓢ	50	20	46·5	32·5	39·8	+ 2·1	13	39	4	0·88	?	*	*
	Douglas (Isle of Man)	49	29	46·9	38·3	42·8	+ 2·5	21	10	3	0·66	−0·44	14·3	25
7. ENGLAND, N.W.	Newton Reigny (Penrith)	48	23	45·6	33·1	39·6	+ 2·4	10	35	2	0·37	−0·50	13·3	23
	Barrow-in-Furness	46	30	45·0	36·7	41·0	+ 0·8	8	22	4	0·45	−0·42	*	*
	Stonyhurst	46	28	43·5	34·7	39·3	+ 0·7	4	28	4	0·59	−0·36	10·3	18
	Blackpool Ⓜ	50	30	46·5	36·0	41·5	+ 1·2	13	26	2	0·24	−0·43	13·8	24
	Manchester	47	27	43·7	35·3	39·6	+ 0·5	5	25	5	0·27	−0·53	*	*
	Liverpool Obsy (Bidston)	50	33	45·6	37·7	41·8	+ 1·7	10	19	5	0·12	−0·37	*	*
	Llandudno Ⓜ	49	31	46·1	38·9	42·7	+ 1·1	18	9	4	0·06	−0·57	12·6	21
	Holyhead	49	33	47·7	39·9	44·0	+ 1·4	23	6	4	0·32	−0·44	*	*
8. ENGLAND, S.W.	Llandovery	49	27	45·6	35·1	40·6	+ 0·4	10	28	3	0·74	−0·49	*	*
	Pembroke	49	36	46·6	40·4	43·6	+ 1·0	18	4	2	0·39	−0·46	7·8	13
	Arlington (N. Devon)	47	29	44·0	36·6	40·5	+ 0·3	6	22	2	0·37	−0·63	*	*
	Cullompton Ⓜ	50	31	45·3	36·4	41·0	− 0·2	9	23	2	0·05	−0·75	3·4	6
	Falmouth	50	34	46·6	39·9	43·5	+ 0·2	19	6	3	0·50	−0·79	6·2	10
	Plymouth	51	35	46·2	38·6	42·6	0·0	18	10	3	0·22	−0·68	4·6	7
	Prawle Point	53	33	46·7	38·0	42·5	+ 0·2	20	11	2	0·22	?	*	*
9. IRELAND, N.	Malin Head	48	34	46·4	41·4	44·0	+ 3·7	17	2	7	0·44	?	*	*
	Londonderry	50	31	47·5	39·6	43·7	+ 2·9	22	7	5	0·53	−0·37	*	*
	Mullaghmore	51	35	48·0	40·1	44·2	+ 1·9	23	5	6	0·46	−0·36	*	*
	Belmullet	50	35	48·3	41·9	45·2	+ 0·8	23	0	7	0·69	?	*	*
	Markree Castle	52	26	47·8	37·0	42·6	+ 0·8	25	14	5	0·29	−0·46	1·4	2
	Brookeborough	49	24	46·1	35·5	41·0	+ 0·8	11	27	3	0·37	?	*	*
	Armagh	50	26	46·2	37·4	42·0	+ 2·0	12	13	3	0·17	−0·50	3·9	7
	Donaghadee	51	30	47·4	36·3	42·1	+ 1·5	25	16	4	0·38	−0·31	*	*
	Edgeworthstown	49	29	45·4	37·0	41·4	+ 1·9	10	21	5	0·34	−0·34	*	*
10. IRELAND, S.	Dublin	51	35	47·4	40·2	43·9	+ 3·1	21	5	3	0·11	−0·39	0·3	1
	Parsonstown	51	35	46·4	39·6	43·1	+ 3·0	18	7	5	0·30	−0·40	0·1	0
	Kilkenny	51	37	45·7	40·9	43·4	+ 3·6	14	3	2	0·28	−0·52	*	*
	Waterford	51	33	47·3	38·3	43·0	+ 1·3	23	10	3	0·42	−0·68	*	*
	Roche's Point	51	35	48·7	41·3	45·2	+ 2·1	25	2	2	0·70	−0·58	*	*
	Valencia	53	34	49·7	41·1	45·6	+ 0·5	29	3	4	0·85	−0·62	13·9	23
	Killarney	50	34	47·7	38·7	43·4	0·0	24	9	5	1·01	?	*	*
	Foynes	52	41	47·4	43·0	45·3	+ 4·0	23	0	5	0·31	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	54	41	48·9	43·3	46·2	+ 0·1	29	0	2	0·29	−0·55	*	*
	Jersey	48	35	46·7	40·7	43·8	+ 1·7	18	4	2	0·03	−0·67	5·2	8

Stations marked Ⓜ are in connection with the Royal Meteorological Society, and those marked Ⓢ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, and Laudale being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the first and second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VI. No. 5.] *Third Series.* WEEK ENDING MONDAY, 4TH FEBRUARY, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 30.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	53	29	44·8	34·8	39·9	2 above.	8	+ 1	28	− 3	43	+15	130	−40
	1. SCOTLAND, EAST	58	20	47·1	34·7	40·9	4 above.	14	+ 5	29	− 9	47	+17	165	−49
	2. ENGLAND, N.E.	56	29	46·9	36·2	41·6	3 above.	14	+ 5	24	− 9	31	+ 3	161	−41
	3. ENGLAND, EAST	57	29	47·2	34·7	41·0	2 above.	15	+ 4	30	− 4	22	−12	231	+11
	4. MIDLAND COUNTIES	58	29	47·3	35·8	41·6	3 above.	15	+ 3	26	− 9	29	−14	215	− 4
	5. ENGLAND, SOUTH	57	31	46·9	37·4	42·2	2 above.	21	+ 8	13	−14	33	−12	164	−13
Principal Grazing, &c. Districts	6. SCOTLAND, WEST	53	30	46·7	36·9	41·8	3 above.	13	+ 3	21	− 4	60	+21	101	−65
	7. ENGLAND, N.W.	55	29	46·8	38·0	42·5	2 above.	20	+10	11	−14	38 *	0	114	−57
	8. ENGLAND, S.W.	54	30	47·4	38·9	43·2	1 above.	21	+ 1	9	− 4	61	−16	94	−13
	9. IRELAND NORTH	54	29	47·2	37·8	42·5	2 above.	21	+ 7	12	−12	74	+16	97	−46
	10. IRELAND, SOUTH	58	32	49·3	39·9	44·6	3 above.	27	+ 6	6	− 8	103	+ 9	67	−36
	— CHANNEL ISLANDS	52	37	49·0	41·9	45·5	2 above.	25	+ 3	0	− 7	115	+18	17	−41

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 30.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	7	19	5 more.	26	+2	5·3	+0·4	4	8	25	−10	10	− 4
	1. SCOTLAND, EAST	6	7	0 (average).	18	+2	1·7	−1·7	14	24	58	− 2	22	− 1
	2. ENGLAND, N.E.	5	3	1 less.	17	0	1·3	−1·0	12	20	48	+13	17	+ 4
	3. ENGLAND, EAST	6	3	1 less.	16	−2	1·0	−1·3	14	22	48	− 6	17	− 2
	4. MIDLAND COUNTIES	6	6	0 (average).	16	0	1·4	−1·5	12	19	45	+ 2	16	+ 1
	5. ENGLAND, SOUTH	6	5	1 less.	16	0	1·2	−1·9	10	16	48	+ 4	16	+ 1
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	6	14	2 less.	21	+1	4·8	−1·8	18	30	45	+10	16	+ 3
	7. ENGLAND, N.W.	6	10	3 more.	17	−1	1·9	−1·9	8	13	44	+ 4	16	+ 2
	8. ENGLAND, S.W.	6	11	1 more.	16	−3	2·7	−2·4	15	21	62	+ 7	21	+ 2
	9. IRELAND, NORTH	7	12	4 more.	25	+3	4·0	+0·2	14	23	35	−17	13	− 6
	10. IRELAND, SOUTH	6	9	0 (average).	21	0	4·5	−0·3	17	27	54	− 9	19	− 3
	— CHANNEL ISLANDS	7	10	2 more.	19	−1	2·5	−1·5	10	15	82	+ 6	27	+ 2

General Remarks.

Weather has been changeable and unsettled in all parts of the Kingdom. During the earlier part of the period it was very mild, with occasional falls of rain, but towards its close the conditions became cold, rough, and squally, with sleet or snow in most places, and a good deal of thunder and lightning.

Temperature has been (as a whole) above the mean, but during the latter part of the week it was rather below. In most districts the excess ranged from 2° to 3°, but in "Scotland, E." it was 4°. The highest of the maxima were registered either on January 31st or February 1st, when the thermometer rose to between 54° and 58° in England and Ireland, and 53° and 58° in Scotland. In the "Channel Islands" the highest reading was only 52°. The lowest of the minima, which were recorded either on February 3rd or 4th, varied from 20° in "Scotland, E." (at Braemar) to 32° in "Ireland, S." and 37° in the "Channel Islands".

Rainfall has been more than the mean in most of the "Grazing Districts", as well as in "Scotland, N.", but a little less in the eastern and southern parts of the Kingdom.

Bright sunshine shows an increase in the west and south-west, but a decrease elsewhere. The percentage of the possible amount of duration ranged from 8 in "Scotland, N." to 27 in "Ireland, S." and to 30 in "Scotland, W."

Barometer and Wind.—At the commencement of the period a series of "V" shaped depressions passed over our Islands from the Atlantic and produced strong winds or gales from the Westward or North-Westward. By the 31st January the barometer had risen again, and the gradients had become less steep. On the following day, however, a large and deep depression appeared off the north of Scotland, and, after travelling eastwards until Saturday evening, it changed its course and moved southwards down the North Sea; at the end of the period it had become much less deep and was dispersing over France, while the barometric recovery in the north and west of our Islands had been exceedingly rapid. Under the influence of this system very strong squally gales from the North-Westward or Northward were experienced over the United Kingdom, as well as in the north and west of France.

* This value has been altered slightly owing to the receipt of further information.

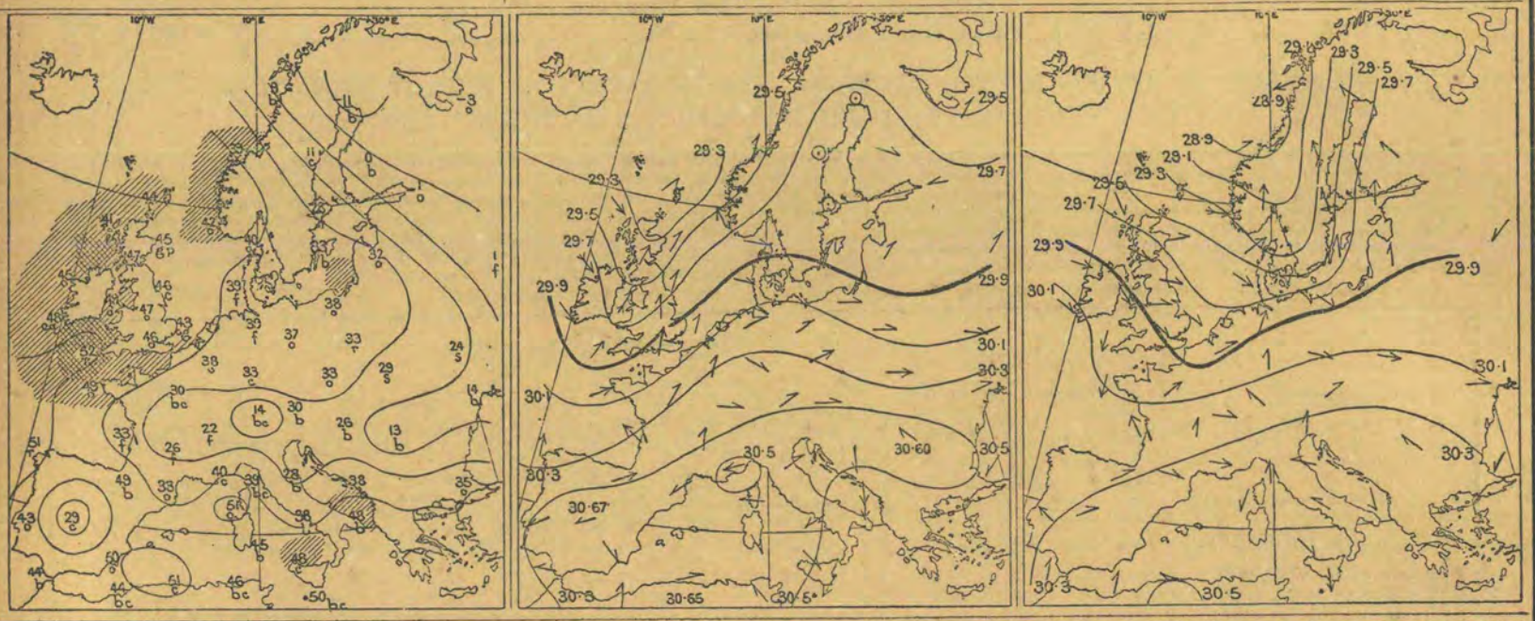
A 57422. 350.—2/89. Wt. 37. E & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 29th January.

Temperature and Weather. | **Barometer and Wind.**

8 a.m. | **8 a.m.** | **6 p.m.**



Weather fine in Sweden and Finland as well as in Italy, Austria, and Algeria. Cloudy elsewhere, with fog over Denmark and Central France; rain in many parts of the United Kingdom, and snow at Lemberg and Kiev. Considerable improvement taking place over our Islands later, but rainy weather setting in over Norway, Denmark, the Netherlands, and France, and snow falling at Hernösand.

Temperature very low over Eastern Lapland (−11° Faht. at Haparanda), very little above zero over Northern and Central Russia; considerably below the freezing point over the southern parts of Russia, Austria, and Germany, and slightly below over the Central parts of France and Spain, and the north of Italy. High for time of year over our Islands (above 45° in most places); a little above 50° on our extreme south-west coasts as well as in the north of Spain.

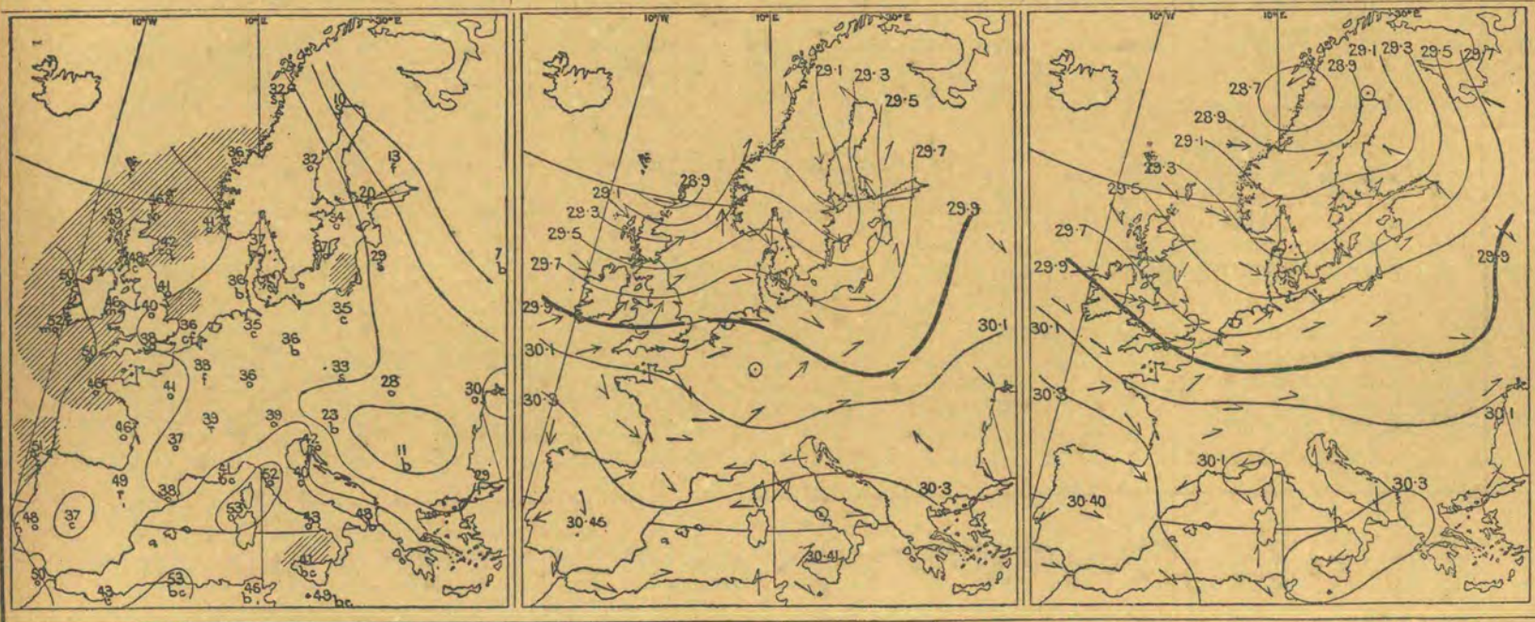
Wind strong from the North-Westward in Ireland, and from the South-westward or Southward over Great Britain, with gales at the western station. South-Easterly in Norway, calm or light and variable over Sweden and Finland, moderate Westerly over Central Europe, North-Easterly over Spain and the south of France. Subsequently veering to the Westward or North-Westward over our Islands as well as on the eastern shores of the North Sea.

Barometer, highest, 30·6 ins. and upwards, in three areas lying respectively over Eastern Spain, Central Algeria, and Southern Austria; high, 30·5 ins. and upwards, over nearly the whole of the Mediterranean and Southern Europe, shallow local depression lying over the Gulf of Genoa; lowest, 29·2 ins. and less, in a rather deep depression lying off the north of Scotland. Trough of "V-shaped" secondary disturbances lying over our western coasts, and shallow disturbances over the White Sea and the Baltic Provinces. Depressions in neighbourhood of our Islands subsequently moving eastwards, and barometer rising briskly in west and north.

Wednesday, 30th January.

Temperature and Weather. | **Barometer and Wind.**

8 a.m. | **8 a.m.** | **6 p.m.**



Weather fine in Denmark and North Germany as well as in the southern parts of Italy, France, and Austria. Dull elsewhere, with rain in many parts of the United Kingdom, and snow at Bodö and the Gulf of Finland. Some improvement taking place later in the west and north of the United Kingdom, but rain setting in over France.

Temperature many degrees below the freezing point over the north of Sweden, Northern and Central Russia and the south of Austria, lowest reading being 7° F. at Moscow; a little below freezing point in other parts of Austria as well as over the southern parts of Germany and Russia. Above 45° in the west and north of our Islands, above 50° at some of the Mediterranean stations, highest reading being 53° at Sanguinaire and Algiers. Subsequently rising above 50° at several of our western and northern stations.

Wind strong from South-West and West over the United Kingdom and the North Sea; moderate or fresh from the same quarters over Central Europe. Southerly in Norway and Finland, but Northerly or North-Westerly in Sweden; Easterly on the northern shores of the Mediterranean; Southerly to Westerly in Algeria. Subsequently veering to the North-Westward in the north and west of our Islands, and to West in the west of Norway.

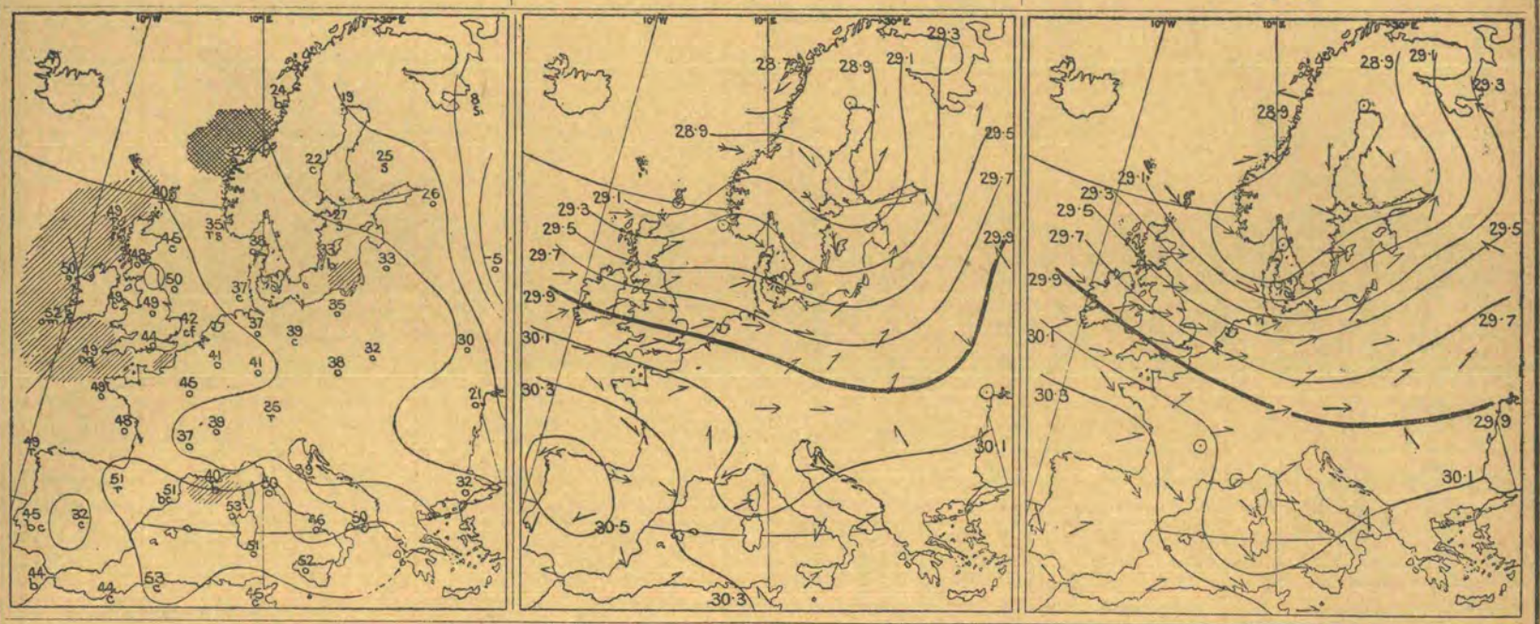
Barometer highest, 30·4 ins. and upwards, over Spain and also over Sicily; high, 30·3 ins. and upwards, over nearly the whole of Spain, Algeria, and the Mediterranean. Lowest, 28·9 ins. and less, in a depression lying to the northward of the Shetlands; 29·0 ins. and less, in an elongated disturbance lying over the Gulf of Bothnia. Depression off north of Scotland subsequently travelling north-eastwards, and brisk rise of barometer taking place on our north and north-west coasts.

II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 31st January.

Temperature and Weather. **Barometer and Wind.**

8 a.m. **8 a.m.** **6 p.m.**



Weather cloudy or overcast at all but the Spanish and southern French stations, with rain over the north-west of our Islands and Central Italy, and snow over Northern Russia. Rain falling later in nearly all parts of Western Europe, heavily in the Shetlands, the south of Norway, and the north of Denmark.

Temperature lowest (zero to −5° Faht.) over Central Russia; several degrees below the freezing point over Lapland and Finland, as well as in the southern parts of Austria and Russia. High for time of year, 45° to 50°, over the greater part of the United Kingdom; a little above 50° at some of the Mediterranean stations, highest reading being 53° at Sanguinaire and Algiers. Maximum readings over our Islands above 50° in most places, highest being 58° at Aberdeen, and 57° at Roche's Point.

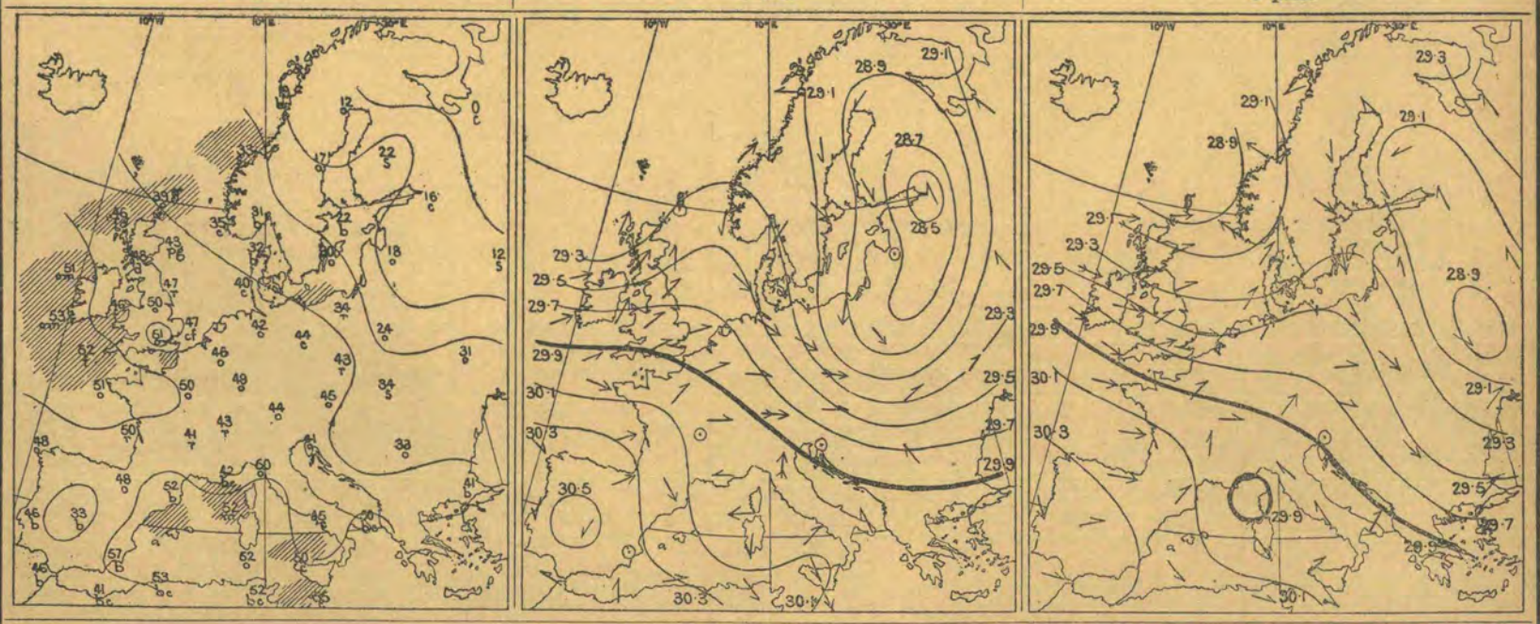
Wind moderate to strong from the Westward over the greater part of Western and Central Europe, but Northerly gales reported in the south of Sweden, and strong Southerly winds in Finland. Moderate North-Easterly to North-Westerly breezes prevailing on the northern shores of the Mediterranean, and South-Westerly breezes in Algeria and Sicily. Subsequently increasing to a gale from the Westward in some parts of Scotland, but wind in Sweden subsiding quickly.

Barometer highest, 30·5 ins. and upwards, in an anticyclone lying over the Iberian peninsula Lowest, 28·7 in. and less, in a depression lying off the north-west of Norway, but low, 28·9 ins. and less, in a "V-shaped" disturbance lying off the Gulf of Bothnia. Barometer rising over South-Western Europe, but falling elsewhere. New depression, with readings below 28·8 inches, subsequently skirting the north of Scotland, and passing on to the south of Scandinavia.

Friday, 1st February.

Temperature and Weather. **Barometer and Wind.**

8 a.m. **8 a.m.** **6 p.m.**



Weather fine in Denmark and the south of Scandinavia, as well as in Spain, Algeria, and the southern parts of Italy and France. Cloudy or overcast elsewhere, with fog over the English, Bristol, and St. George's Channels, rain in France and the extreme north-west of our Islands, and snow at some of the Russian stations, as well as at Christiansund. Showers falling later in most parts of the United Kingdom.

Temperature low (zero to 12° Faht.) over Northern and Central Russia; considerably below the freezing point over Lapland, Finland, and the Baltic provinces. Very high for time of year (50° or slightly above) in the west and south of our Islands. Similar readings reported over France and the Mediterranean, highest of all being 55° at Malta. Subsequently rising to 57° at Ochtertyre, Waterford, Cambridge, and in London, and to 58° at Bawtry.

Wind fresh or strong from the South-Westward or Westward over the greater part of our Islands and France, from the North-Westward in Denmark, North Germany, and the south of Norway, and from the Northward over Sweden and the Baltic. Light from between South-West and South-East in Russia; variable over the Mediterranean. Subsequently increasing to a moderate or fresh gale from the Westward on some parts of our western coasts.

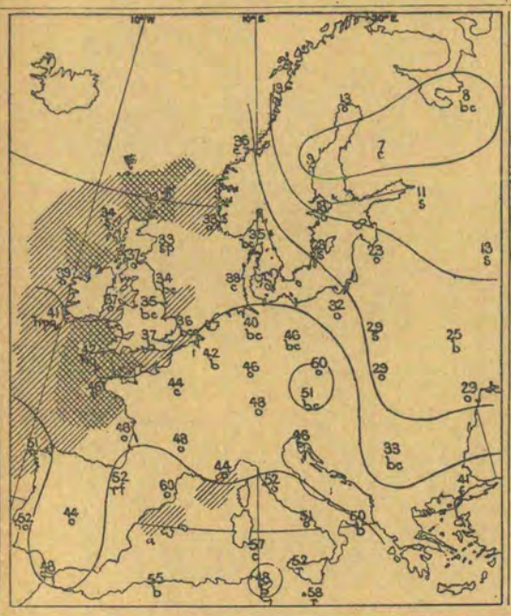
Barometer highest, 30·4 ins. to 30·5 ins., in an anticyclone lying over the Iberian peninsula. Lowest, 28·5 ins. and less, in an elongated depression lying near St. Petersburg; 29·2 ins. and less in another disturbance lying to the north-westward of Scotland; 30·0 ins. and less in a shallow area lying over the Gulf of Genoa. Barometer falling at all but the Scandinavian and Danish stations. Depression to north-westward of our Islands subsequently moving eastwards, and barometer rising at some of the Irish stations.

II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 2nd February.

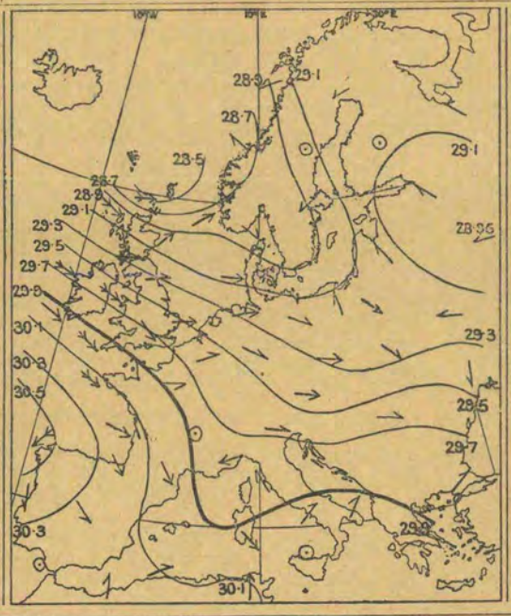
Temperature and Weather.

8 a.m.

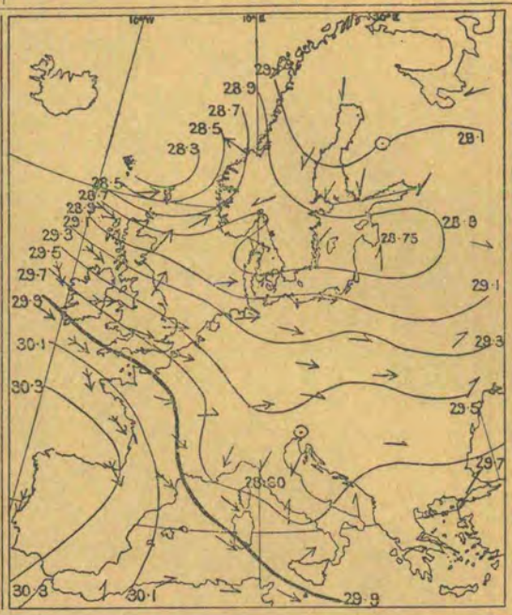


Barometer and Wind.

8 a.m.



6 p.m.



Weather in a most unsettled condition over the whole of Western Europe, but especially over the northern and western parts of the British Isles, where heavy squalls of snow, sleet, and hail were reported, and thunderstorms at intervals. Overcast in France and Germany, with rain in places; very variable in Russia, with snow at several stations. Rough weather with thunder and lightning becoming still more general in the west later, and extending to the Continent.

Temperature fallen fast over the British Isles, risen over Southern Europe, the Mediterranean, and Germany; remaining low over Northern Russia. Readings as low as 7° to 10° F. over Finland, 18° at Moscow, 32° to 38° over the greater part of the British Isles. The fall subsequently extending to the Mediterranean and Germany.

Wind blowing a strong gale from North-West and West in Scotland, Ireland and the western parts of England, as well at the Dutch stations. Strong and squally winds at our eastern and southern stations, and fresh Westerly over Western and Central Europe. Variable breezes of little force over Russia. The gale in our Islands increasing later, and spreading to the Bay of Biscay, the south of France, and to the Baltic coast of Germany.

Barometer falling rapidly in the west. Readings much below 29 ins. over Scandinavia and the north of Scotland. Deep and increasing depression near the Shetland Isles during day, and minor disturbances forming over Southern and Eastern Europe later. Gradients over Scotland becoming very steep at night as the depression in that region began to move southwards.

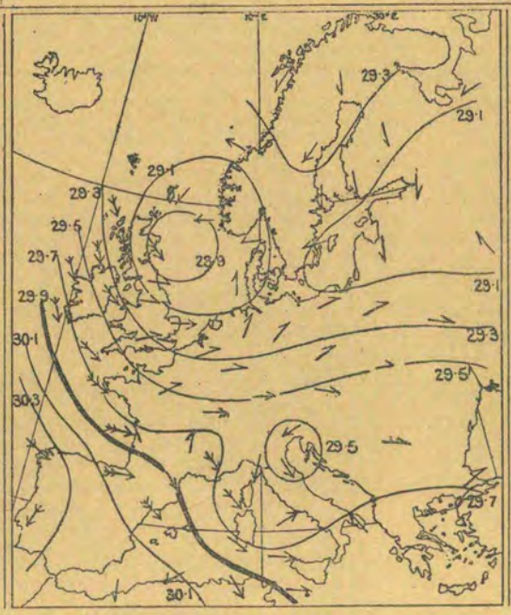
Sunday, 3rd February.

Temperature and Weather.

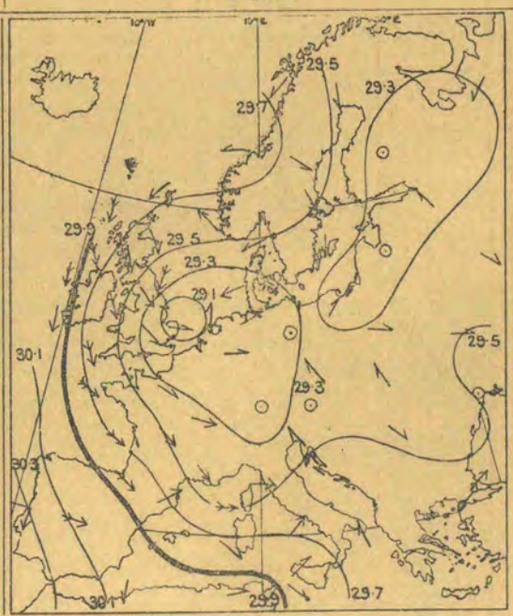
8 a.m.

Barometer and Wind.

8 a.m.



6 p.m.



Weather exceedingly rough in the north and west of our Islands and over the whole of the Bay of Biscay, less rough in the south of France; squalls of cold rain, hail, or snow in most parts of Western Europe during day; thunder in several places. Comparatively fair over Russia, but dull; wet and squally over Italy and the Gulf of Venice.

Temperature lower over Southern and Central Europe than on 2nd; changing irregularly in many parts of the British Isles. Morning readings −3° Faht. to +4° over Northern Russia, 30° to 40° over Central Europe, 32° to 39° over the inland parts of the British Isles, and not rising much above 40° during the day. Cold becoming still more intense in north of Russia later.

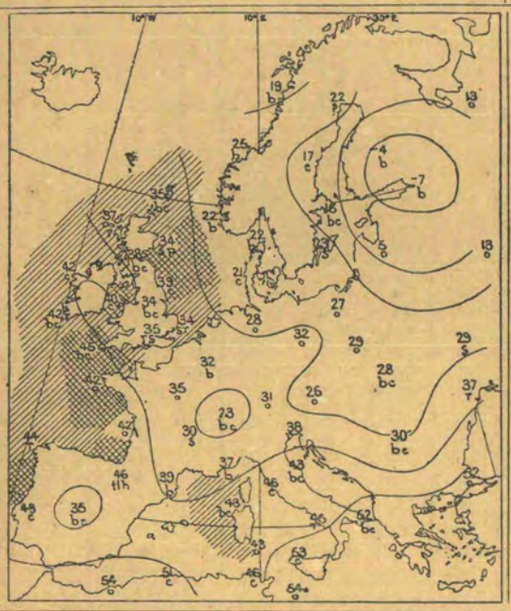
Wind blowing severe gale from North-West or North over the northern, western, and south-western parts of the British Isles and the western parts of France and Spain. North-Westerly gales over the northern and western parts of the Mediterranean also, a South-Westerly gale at Rome, and strong North-Easterly wind at Trieste. Moderate Westerly breezes over Germany, variable airs in Russia. Little change later, except in east and south of England, where North-Easterly gales and hard squalls were felt.

Barometer very low in a large deep depression travelling southwards over the North Sea, and in a shallow system over the Baltic Provinces; less low in a third disturbance covering the northern part of the Adriatic. The North Sea depression filling up quickly as it approached Belgium and France, and barometer rising very rapidly over the United Kingdom and North Sea.

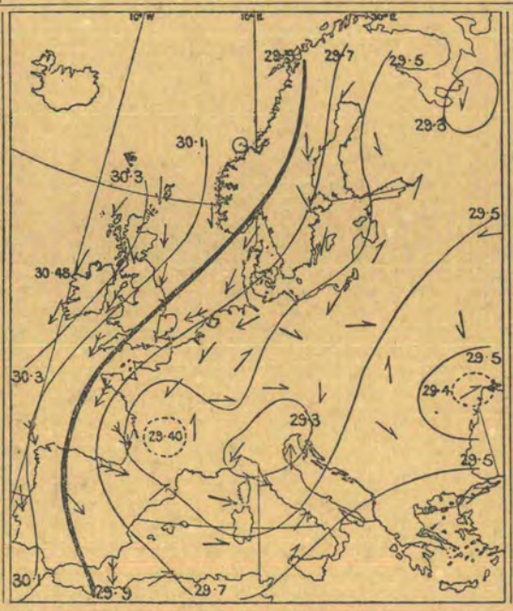
II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 4th February.

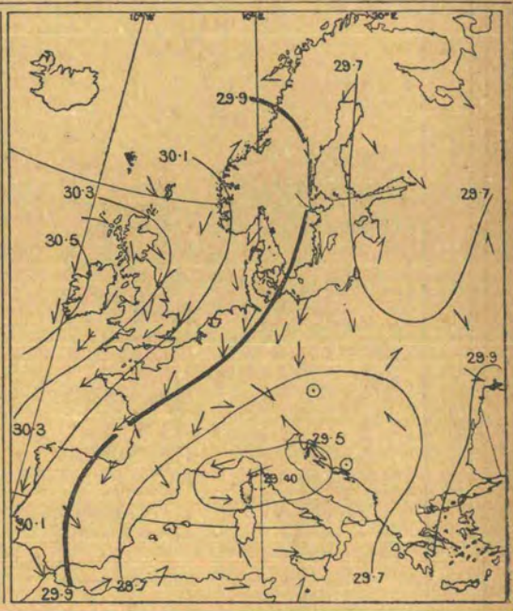
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather improving gradually over the British Islands, first in the west and north, and afterwards in the south-east; still wild and squally, with snow squalls, over France, the Bay of Biscay, and north of Spain, and unsettled over the northern parts of the Mediterranean, Italy, and the Gulf of Venice. Becoming very dry and frosty over England later, but considerable falls of snow occurring in Austria, South Germany, and some parts of France.

Temperature low, especially over Northern Russia; several degrees below zero Faht. in Finland; readings ranging from 28° to 32° Faht. over Austria and most of Germany, 33° to 37° over the inland part of the British Isles, 37° to 39° in the south of France, and as low as 23° at Belfort, and 27° at Wiesbaden. Falling still further in most places later, but rising in west of Norway.

Wind veering to North-East over the United Kingdom, and gales dying down; blowing hard for some time longer in the north and west of France, and a moderate gale over Southern France and Italy. Variable airs over Russia and Poland. Wind backing to the Westward, very light, in the north of Scotland at evening; North-Easterly wind in south moderating slowly.

Barometer highest over and to the north-westward of the British Islands; lowest over France, the Mediterranean, and Southern Russia. The depression of Sunday filling up over Western France, and barometer rising quickly over the Northern Departments, the United Kingdom, and North Sea. Fresh fall commencing in north of Scotland later.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

At the commencement of the week barometric pressure was highest over the Mediterranean and Southern Europe, lowest in the extreme north-west and north, and depressions were moving in a north-easterly direction past Cape Wrath and the Shetland Isles towards Norway, while their "V" shaped secondaries travelled more directly over the United Kingdom and North Sea. Gradually the high pressure area was transferred to Spain and the adjacent parts of the Atlantic, depressions began to take a more easterly course, the wind veered to a more westerly quarter over the British Islands and Central Europe, and temperature in our Islands became high for the time of year. On Friday, February 1, a depression reached the Shetland Islands from the westward, but, instead of continuing to move eastwards, became very deep and large, and caused severe North-Westerly to Westerly gales over the north and west of the British Islands. After remaining stationary for about 24 hours the system moved abruptly in a southerly direction, over the North Sea, grew shallower rapidly, and finally filled up over the western parts of France. The gale spread southward to the Bay of Biscay and Spain, and, owing to an independent system over the Adriatic, North-Westerly gales were felt over the Mediterranean also.

III.—DATA from which the SUMMARY on page 25 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ⚓	48	31	45·0	37·3	41·2	+ 2·2	8	19	7	1·73	+0·90	*	*
	Stornoway ⚓	50	32	44·7	35·7	40·2	+ 1·2	8	24	7	1·18	+0·05	6·6	12
	Wick ⚓	53	31	46·4	35·4	40·9	+ 2·4	12	26	7	0·80	+0·31	*	*
	Lairg ⚓	50	29	43·4	32·9	38·2	+ 1·3	4	33	7	1·38	+0·60	*	*
	Glencarron ⚓	51	30	43·9	32·8	38·4	+ 1·5	5	34	7	4·53†	?	2·0	4
	Fort Augustus ⚓	53	30	45·6	34·8	40·2	+ 2·2	10	28	7	1·67†	?	*	*
1. SCOTLAND, E.	Nairn ⚓	56	28	48·0	36·4	42·2	+ 4·2	25	16	5	0·89	+0·48	*	*
	Aberdeen ⚓	58	31	46·3	35·6	41·0	+ 3·3	12	26	6	0·56	−0·04	19·7	34
	Braemar ⚓	52	20	46·0	29·8	37·9	+ 4·2	11	46	7	1·01	+0·26	10·7‡	18‡
	Ochtertyre ⚓	57	28	48·6	33·6	41·1	+ 4·1	18	34	6	0·55	−0·67	*	*
	Leith ⚓	55	31	47·3	38·0	42·7	+ 4·6	22	11	6	0·28	−0·25	*	*
	Marchmont ⚓	54	30	46·6	34·6	40·6	+ 4·7	13	29	7	0·78	+0·13	12·0	20
2. ENGLAND, N.E.	Alnwick Castle ⚓	54	32	45·7	35·9	40·8	+ 2·8	10	24	4	0·40	−0·15	*	*
	Durham ⚓	55	30	48·0	34·6	41·3	+ 3·0	17	30	4	0·32	−0·13	12·0	20
	Shields ⚓	56	31	47·4	36·9	42·2	+ 3·5	23	14	5	0·36	−0·04	*	*
	Scarborough ⚓	54	29	47·2	35·8	41·5	+ 3·5	15	25	6	0·30	−0·14	10·1‡	16‡
	York ⚓	55	31	48·0	36·4	42·2	+ 3·7	25	16	6	0·34	−0·11	14·8	24
	Spurn Head ⚓	52	33	45·3	37·4	41·4	+ 2·6	9	19	5	0·32	?	*	*
3. ENGLAND, E.	Hillington ⚓	55	30	48·8	34·6	41·7	+ 3·7	19	31	7	0·31	−0·14	12·1	20
	Yarmouth ⚓	54	30	44·9	33·7	39·3	0·0	8	31	7	0·23	−0·27	*	*
	Geldeston ⚓	56	30	48·3	34·9	41·6	+ 2·1	18	29	6	0·43	+0·05	13·7	22
	Cambridge ⚓	57	30	47·6	34·0	40·8	+ 2·0	16	32	6	0·29	−0·08	14·9	24
	Rothamsted ⚓	55	29	47·8	35·7	41·8	+ 3·3	16	26	6	0·47	−0·13	*	*
	Ingatestone ⚓	55	30	45·8	35·1	40·5	+ 1·8	11	27	5	0·19	−0·21	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall) ⚓	58	32	48·7	35·3	42·0	+ 2·6	19	19	5	0·49	+0·07	9·3‡	15‡
	Loughborough ⚓	56	31	47·9	37·3	42·6	+ 4·1	24	13	7	0·58	+0·09	13·0‡	21‡
	Cheadle ⚓	54	29	46·7	34·4	40·6	+ 2·8	13	30	7	0·68	+0·01	*	*
	Churchstoke ⚓	54	29	47·1	34·3	40·7	+ 1·3	14	31	5	0·68	−0·01	7·4	12
	Hereford ⚓	56	30	48·4	37·4	42·9	+ 3·2	26	13	5	0·39	−0·22	*	*
	Cirencester ⚓	52	30	45·7	35·4	40·6	+ 1·8	10	26	4	0·46	−0·27	15·1	24
	Oxford ⚓	53	32	46·6	36·7	41·7	+ 2·0	13	22	6	0·64	+0·12	12·8	21
5. ENGLAND, S.	London ⚓	57	32	47·3	36·9	42·1	+ 2·5	22	14	6	0·47	−0·02	9·2‡	15‡
	Strathfield Turgiss ⚓	56	31	47·6	36·3	42·0	+ 2·6	16	16	5	0·57	+0·01	*	*
	Dungeness ⚓	48	31	46·0	37·1	41·6	+ 0·9	11	20	6	0·69	+0·13	*	*
	Hastings (St. Leonard's) ⚓	50	32	45·0	37·0	41·0	+ 0·6	8	20	7	0·61	+0·02	13·4	21
	Southampton ⚓	56	32	49·9	38·3	44·1	+ 4·4	30	10	6	0·44	−0·33	13·0	21
	Hurst Castle ⚓	50	35	46·6	38·6	42·6	+ 1·2	18	10	7	0·34	−0·33	*	*
	Stowell ⚓	53	32	46·1	37·4	41·8	+ 1·3	11	19	7	0·47	?	5·2‡	8‡
6. SCOTLAND, W.	Laudale (Loch Sunart) ⚓	?50	32	?45·5	36·6	?41·1	+?1·8	?10	?21	7	2·73†	+0·71	*	*
	Glasgow ⚓	52	30	46·4	35·8	41·1	+ 2·5	12	25	7	0·73	−0·25	15·8	27
	Ardrossan ⚓	51	34	47·1	40·0	43·6	+ 4·2	20	6	5	0·65	−0·26	*	*
	Glenlee ⚓	54	30	46·9	34·6	40·8	+ 3·1	14	30	5	2·06	?	*	*
	Douglas (Isle of Man) ⚓	53	33	47·6	37·5	42·6	+ 2·0	23	13	6	0·85	−0·18	19·4	32
7. ENGLAND, N.W.	Newton Reigny (Penrith) ⚓	52	29	45·0	34·2	39·6	+ 2·0	8	29	6	1·38	+0·54	8·3	14
	Barrow-in-Furness ⚓	50	34	46·3	39·4	42·9	+ 2·4	17	7	5	0·86	+0·07	*	*
	Stonyhurst ⚓	50	30	46·3	35·3	40·8	+ 1·8	12	26	7	1·90	+0·95	13·4	22
	Blackpool ⚓	49	34	45·9	38·6	42·3	+ 1·5	16	10	5	0·70	+0·05	10·2	17
	Manchester ⚓	52	33	46·4	36·4	41·4	+ 2·0	12	23	7	1·41	+0·73	*	*
	Liverpool Obsy (Bidston) ⚓	55	33	47·6	39·1	43·4	+ 2·9	22	8	6	0·48	0·00	*	*
	Llandudno ⚓	54	33	49·3	39·1	44·2	+ 2·2	28	8	6	0·62	0·00	0·0	0
	Holyhead ⚓	53	34	47·9	41·6	44·8	+ 2·0	21	1	5	0·42	−0·33	*	*
8. ENGLAND, S.W.	Llandovery ⚓	52	30	47·1	35·7	41·4	+ 0·9	14	26	6	1·56	+0·36	*	*
	Pembroke ⚓	50	35	46·9	42·1	44·5	+ 1·6	18	0	7	0·43	−0·41	12·3	20
	Arlington (N. Devon) ⚓	50	31	45·4	37·9	41·7	+ 1·3	10	17	6	2·01	+0·91	*	*
	Cullompton ⚓	54	31	47·7	38·4	43·1	+ 1·8	23	10	6	1·12	+0·30	10·8	17
	Falmouth ⚓	53	35	49·2	40·1	44·7	+ 1·2	27	5	6	0·93	−0·32	16·4	26
	Plymouth ⚓	54	34	48·5	39·7	44·1	+ 1·1	24	6	6	0·96	+0·07	14·3	22
	Prawle Point ⚓	50	32	46·7	38·4	42·6	− 0·1	19	10	6	0·73	?	*	*
9. IRELAND, N.	Malin Head ⚓	51	32	45·7	39·3	42·5	+ 2·3	15	8	6	0·94	?	*	*
	Londonderry ⚓	53	33	47·3	38·0	42·7	+ 2·1	22	11	7	1·47	+0·62	*	*
	Mullaghmore ⚓	52	34	47·6	40·1	43·9	+ 2·2	21	5	7	1·24	+0·40	*	*
	Belmullet ⚓	52	32	48·4	41·3	44·9	+ 1·9	23	2	7	2·08	?	*	*
	Markree Castle ⚓	53	32	47·2	36·9	42·1	+ 1·1	22	14	7	1·40	+0·66	15·0	25
	Brookeborough ⚓	52	29	46·0	34·9	40·5	+ 0·6	11	23	7	1·38	?	*	*
	Armagh ⚓	54	31	47·8	35·6	41·7	+ 1·8	16	26	6	0·71	+0·05	?14·1	?23
	Donaghadee ⚓	54	31	47·9	39·0	43·5	+ 3·0	23	8	7	0·66	−0·03	*	*
	Edgeworthstown ⚓	53	30	46·7	34·9	40·8	+ 1·3	13	28	7	0·72	+0·01	*	*
10. IRELAND, S.	Dublin ⚓	55	33	48·4	37·9	43·2	+ 2·1	26	11	6	0·57	+0·04	18·1	29
	Parsonstown ⚓	54	32	47·4	38·6	43·0	+ 2·8	21	10	6	0·71	+0·03	17·0	27
	Kilkenny ⚓	56	32	47·7	39·3	43·5	+ 3·5	22	8	6	0·69	−0·09	*	*
	Waterford ⚓	58	32	49·4	39·1	44·3	+ 2·1	28	8	4	0·56	−0·52	*	*
	Roche's Point ⚓	57	34	49·4	41·7	45·6	+ 2·1	26	1	7	1·19	−0·09	*	*
	Valencia ⚓	54	36	50·1	42·6	46·4	+ 1·2	31	0	7	1·52	+0·14	14·8	24
	Killarney ⚓	56	34	51·2	39·3	45·3	+ 1·9	34	8	7	1·02	?	*	*
	Foynes ⚓	55	35	50·9	40·7	45·8	+ 4·5	32	4	7	1·14	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's) ⚓	52	37	49·6	42·7	46·2	+ 0·2	29	0	7	0·89	+0·09	*	*
	Jersey ⚓	52	37	48·4	41·1	44·8	+ 2·7	23	3	7	1·07	+0·38	10·0	15

Stations marked ⚓ are in connection with the Royal Meteorological Society, and those marked ⚓ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, and Laudale being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the first and second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 6.] *Third Series.* WEEK ENDING MONDAY, 11TH FEBRUARY, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

DISTRICTS. (See p. 36.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
	°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	47	10	36·1	25·5	31·0	7 below.	0	− 8	77	+49	43	+ 7	207	+13
1. SCOTLAND, EAST	52	16	38·4	26·8	32·6	5 below.	0	−10	66	+33	47	+ 8	231	−11
2. ENGLAND, N.E.	46	20	38·4	28·5	33·5	5 above.	0	−10	60	+30	31	− 6	221	− 8
3. ENGLAND, EAST	48	20	38·8	27·8	33·3	6 below.	0	−13	61	+32	22	−22	292	+45
4. MIDLAND COUNTIES	49	18	39·8	28·3	34·1	6 below.	0	−14	55	+26	29	−25	271 *	+28
5. ENGLAND, SOUTH	51	21	41·4	29·5	35·5	6 below.	0	−15	46	+24	33	−27	210	+16
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	46	19	39·4	29·6	34·5	5 below.	0	−11	53	+31	60	+ 8	154	−29
7. ENGLAND, N.W.	49	19	40·4	30·8	35·7	5 below.	0	−12	44	+21	38	−11	158	−33
8. ENGLAND, S.W.	51	16	44·5	33·0	38·8	4 below.	7	−14	34	+23	68	−31	128	+14
9. IRELAND, NORTH	50	10	42·0	32·2	37·1	4 below.	0	−15	34	+13	74	0	131	−30
10. IRELAND, SOUTH	54	22	46·2	35·3	40·8	2 below.	12	−10	27	+15	115	− 5	94	−16
— CHANNEL ISLANDS	51	32	47·5	38·7	43·1	1 below.	22	− 2	9	+ 4	137	+17	26	−35

Rainfall. Bright Sunshine.

DISTRICTS. (See p. 36.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
		10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	6	11	4 more.	32	+3	6·4	+0·8	6	9	31	−12	10	− 4
1. SCOTLAND, EAST	5	5	2 less.	23	+3	2·2	−1·8	20	33	78	+ 6	23	0
2. ENGLAND, N.E.	4	4	1 less.	21	0	1·7	−1·1	19	31	67	+25	20	+ 8
3. ENGLAND, EAST	5	8	4 more.	21	−1	1·8	−0·9	12	18	60	− 7	17	− 2
4. MIDLAND COUNTIES	4	9	3 more.	20	−1	2·3	−1·2	13	20	58	+ 2	16	0
5. ENGLAND, SOUTH	5	9	3 more.	21	0	2·1	−1·6	8	12	56	− 1	16	0
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	4	7	3 less.	25	−1	5·5	−2·1	24	39	69	+21	20	+ 6
7. ENGLAND, N.W.	5	10	2 more.	22	−1	2·9	−1·6	18	28	62	+12	18	+ 3
8. ENGLAND, S.W.	5	9	1 less.	21	−3	3·6	−2·5	14	22	73	+ 7	21	+ 2
9. IRELAND, NORTH	6	9	1 more.	31	+4	4·9	+0·4	17	26	52	−16	15	− 5
10. IRELAND, SOUTH	6	8	2 less.	27	+1	5·3	−0·5	19	30	73	− 6	21	− 2
— CHANNEL ISLANDS	7	7	0 (average).	26	0	3·2	−1·6	14	20	96	0	26	0

General Remarks.

Weather has continued in a cloudy and unsettled condition generally, although in some parts of the Kingdom a few bright intervals have been experienced. Falls of rain occurred during the earlier part of the period, but towards its close large quantities of snow were reported, especially over Wales and central and southern England.

Temperature has been below the mean in all districts. In the "Channel Islands" and over the south of Ireland the deficit has been slight, but in most other parts of the Kingdom it was as much as 5° or 6°, and in "Scotland, N." 7°. The highest of the maxima, which were recorded during the earlier part of the week, ranged from 46° in "England, N.E." and "Scotland, W." to 54° in "Ireland, S." At some of our northern and north-western stations the maxima on the 10th did not exceed 29°. The lowest of the minima were registered either on the 10th or 11th, when the thermometer fell to 10° in "Scotland, N." and "Ireland, N." (at Fort Augustus and Brookeborough), to 16° in "England, S.W." and "Scotland, E.", and to between 18° and 22° in nearly all other districts. In the "Channel Islands" the lowest reading was 32°.

Rainfall has not differed materially from the mean value, but in most parts of England it has been rather more. In some parts of the "Midland Counties" the fall of snow on the 10th yielded about 0·75 in. of water, and at our southern stations rather more than 0·5 in.

Bright sunshine has been more prevalent than it was last week; the percentage of the possible amount of duration ranged from 9 in "Scotland, N." and 12 in "England, S." to 30 in "Ireland, S.", 33 in "Scotland, E.", and to 39 in Scotland, W."

Barometer and Wind.—Barometric pressure during this period has been subject to great and sudden changes. During the earlier part of the time depressions moved south-eastwards over Scandinavia, but on the night of the 6th—7th, a well-defined subsidiary disturbance travelled very quickly over our Islands from the north-westward. As this disappeared to the south-eastward the centre of a large and very deep depression passed over the eastern part of the North Sea and Denmark, and caused the wind, which had previously been moderate to strong from the Northward or North-Westward, to increase to a severe gale on all but our south-western coasts. Towards the end of the period the barometer fell rapidly in the west, and a rather complex system travelled quickly over the more southern parts of our Islands from the Atlantic. With this system the wind increased to a gale on our south-western coasts only, but its passage was marked by the heavy falls of snow referred to above.

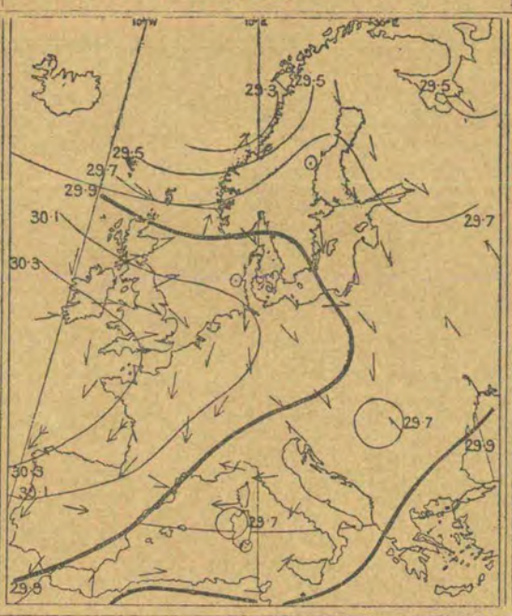
* This value has been altered owing to the receipt of further information.

A 57512. 350.—2/89. Wt. 37. E & S.

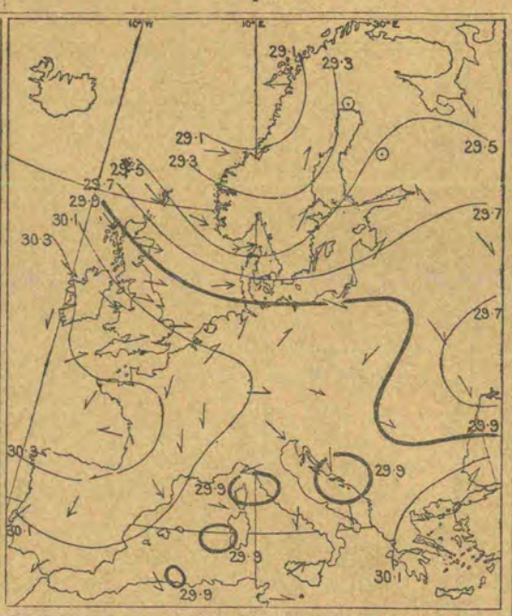
Tuesday, 5th February.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine over Spain, France, and south of England, dull over Germany, and Russia, with snow in places; further falls of snow in Austria. Cloudy and unsettled in Norway and Scotland, showery at Aberdeen, rainy in Ireland. Showers generally over North-Western Europe during the day.

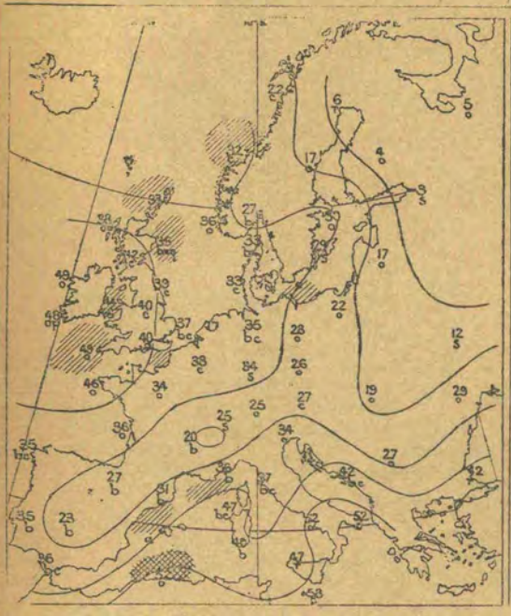
Temperature lower over the southern half of the Continent and south of England than on the 4th, much warmer in extreme north-west. Readings below zero over Finland and Baltic Provinces, much below the freezing point in almost all inland regions, and as low as 35° at Pesaro, 36° at Florence and Perpignan, and 38° at Nice; but 47° at Valencia, 43° at Stornoway, and 42° at Sumburgh Head. Milder weather spreading south-eastwards later, but a fresh fall occurring in the north and north-west at night.

Wind Northerly in Austria and Poland, North-Easterly over Germany, France, and Spain, and still blowing rather hard in the western parts of latter countries. Moderate Easterly winds over the northern parts of the Mediterranean, Southerly to Westerly in Algeria. South-Westerly and Westerly winds increasing in strength reported again in the extreme north-western districts. Variable airs over Russia. Wind subsequently becoming Westerly and North-Westerly all over the British Isles, and blowing hard in Caithness, strongly on our north-west coasts.

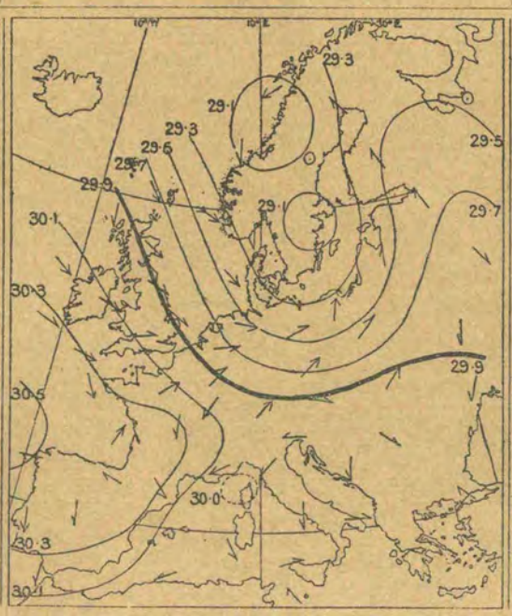
Barometer, high over the Atlantic, and a ridge extending thence across the south of our Islands and east of France: rather high over Southern Russia also. Rather low, but rising, over Southern Europe, low and falling fast in Norway and north of Scotland. The fall in the north-west subsequently spreading southward over the British Isles and North Sea, as a large depression advanced over Scandinavia from the westward.

Wednesday, 6th February.

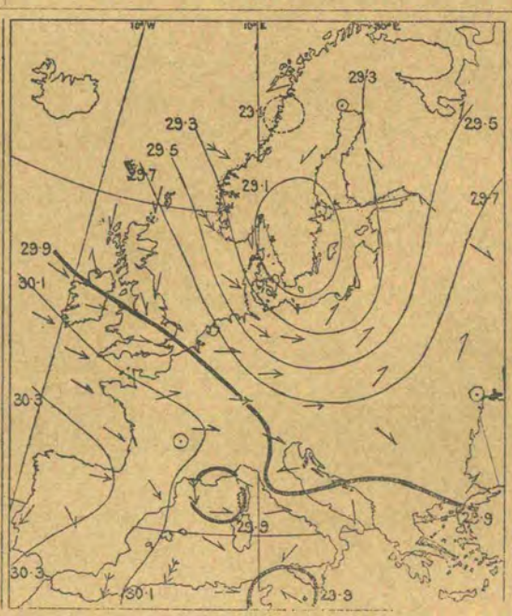
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine and bright over Southern Europe, very cloudy or overcast elsewhere, with falls of snow at some of the German and Russian stations, and sleet or rain in the northern and western parts of our Islands. Becoming very unsettled, squally, and rainy over the British Islands consequently—first in the north-west, afterwards in the south-east.

Temperature risen greatly over Ireland, England, France, Western Germany, Denmark, the Baltic and Finland, fallen over Southern Russia, and beginning to fall again both in the north-west of Norway and in Scotland, changing irregularly in our Islands and their neighbourhood later.

Wind North-Westerly, moderate to a gale over Brittany, the British Isles and North Sea, South-Westerly over Germany, Southerly to South-Easterly over the Baltic and Gulf of Bothnia; very light and variable over Russia, Poland, and the Balkan Peninsula; variable but chiefly Northerly to North-Easterly over the Mediterranean. "Mistral" in the south of France. Wind backing to the South-Westward over the British Islands later.

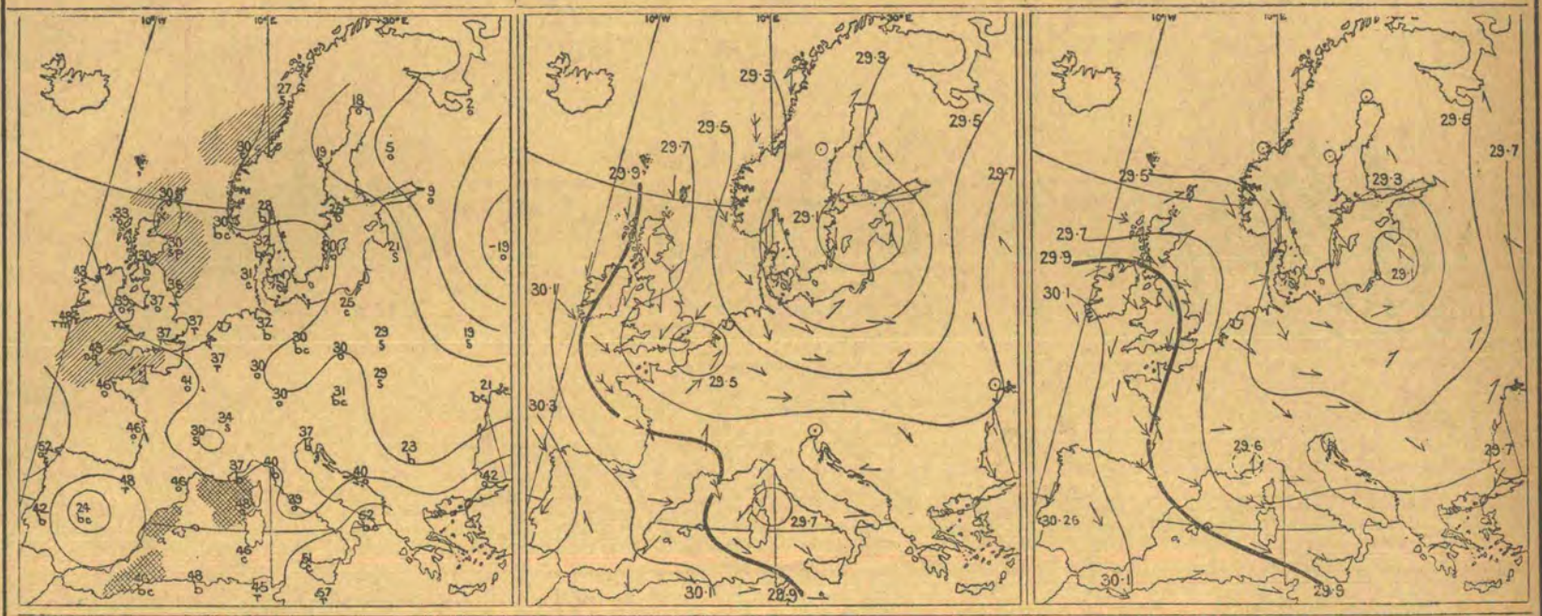
Barometer highest over Spain, the Bay of Biscay, and adjacent parts of Atlantic, lowest in complex depression over Scandinavia, gradients rather steep across the British Islands and North Sea. Rather low over Little Russia and the Mediterranean. Rising over Southern Europe, falling in the north and north-west. Small depression appearing off our north-west coasts later, and moving rapidly in a south-easterly direction.

II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 7th February.

Temperature and Weather. **Barometer and Wind.**

8 a.m. **8 a.m.** **6 p.m.**



Weather very changeable over Western Europe, showery (sleet and hail) in the north and west of the British Islands, steady rain in the south and over Belgium and the north of France, as well as at Biarritz, Malta, and in parts of Algeria; snow in several parts of Russia, Germany, and the south of France; fine and bright over Spain and the north-west shores of the Mediterranean. Subsequently clearing in the south of our Islands, but becoming rainy and unsettled in the north. Very heavy rain falling at the Algerian stations, and much snow at Hernösand.

Temperature changing very fitfully over Western Europe, falling over Russia. Readings varying from 50° and more at some of the Mediterranean stations and Corunna, and from nearly 50° on our own south-western coasts, to 30° in the east of Scotland and at Lyons, to between 29° and 32° over Germany and Austria, to below 20° over Russia and to −19° Fahr. at Moscow. Milder later in the north of Scotland, colder in the south of England, but very changeable generally.

Wind Northerly (North-East to North-West) over North-Western and Western Europe, Westerly over Germany, Southerly over Russia, Easterly in the Gulf of Finland; strong to a gale and squally in the south of our Islands and over the Bay of Biscay, moderate, as a whole, over Southern and Central Europe and a strong mistral blowing in the Gulf of Lyons; very light over Russia, moderate to light elsewhere. Gale in the south lulling later, and wind backing over the British Isles generally, most in north.

Barometer high (30·3 ins. and more) over the Atlantic and Spain, 29·8 ins. and more over Central Russia, low (29·0 in.) over the Baltic, 29·5 ins. and less over Belgium and the south-east of England, and 29·8 ins. and less over the Gulf of Genoa and Corsica. The depressions over the Baltic and Belgium both moving south-eastwards later, the latter filling up completely, and barometer rising fast in the British Islands. Fresh fall setting in over the north of Scotland later.

Friday, 8th February.

Temperature and Weather. **Barometer and Wind.**

8 a.m. **8 a.m.** **6 p.m.**

Weather fine and bright (but cold) over Southern Europe generally, cloudy or overcast elsewhere, with snow in many parts of Russia, North Germany, and Denmark. Snow and hail squalls in Scotland and the north of Ireland, rain at several of our western and south-western stations and changeable unsettled weather over the United Kingdom as a whole. Heavy snow in the north of the British Islands later; hail squalls and thunder in the south.

Temperature continuing very low over Russia, changing very fitfully, but not largely, over Central, Western, and North-Western Europe, including the British Isles. Readings much below the freezing point in Russia, less low over Austria, Germany, the western and southern parts of France, Spain, and the north of Scotland, but exceeding 50° over the southern parts of the Mediterranean only. Rising to 50° in some parts of our Islands in the morning, but falling abruptly later as the hail and rain squalls spread southwards. Frost over England at night.

Wind blowing a strong gale from North-West and West over the northern parts of the British Islands, and a strong breeze from the same quarter in the south. Light to moderate Westerly and South-Westerly over Central Europe and Denmark, South-Easterly and Easterly in the north-west of Norway. Strong cyclonic circulation over the Mediterranean. "Mistral" in south of France. Strong North-Westerly and Northerly gales all over our Islands and the North Sea later.

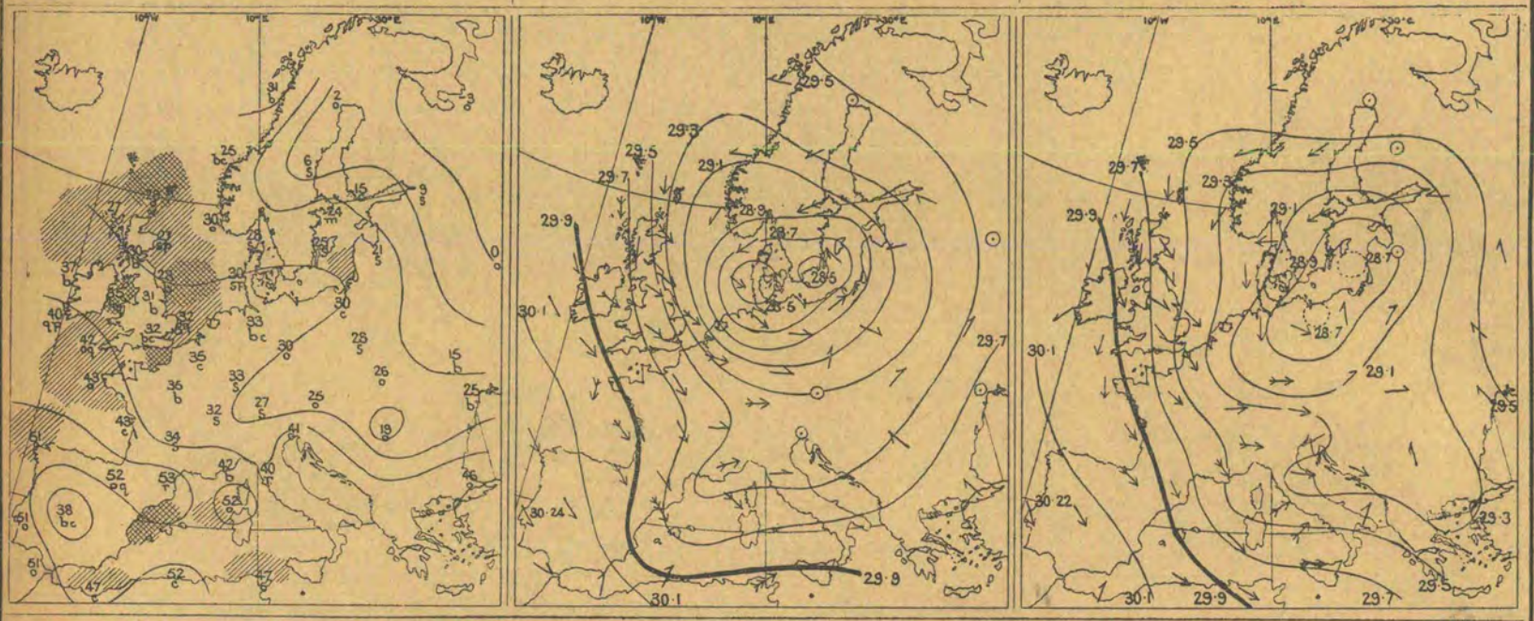
Barometer highest (30·3 ins. and more) to the westward of Spain, 29·7 ins. and more over Eastern Russia; very low in a large depression near the Shetland Isles, and in less deep systems over the Mediterranean and the Baltic provinces. The latter depression filling up, but the two others growing deeper, that over the North Sea becoming very large and deep, and moving south-eastwards.

II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 9th February.

Temperature and Weather. **Barometer and Wind.**

8 a.m. **8 a.m.** **6 p.m.**



Weather fine over the north of Scandinavia and the south of our Islands, as well as in Algeria and the south of France. Cloudy elsewhere, with snow over Scotland, Sweden, Denmark, Germany, the Baltic, Western Russia, and the east of France. Snow showers falling later in most parts of the United Kingdom, but sky clearing generally towards night.

Temperature a little below zero over Northern Russia; considerably below the freezing point over the whole of Russia, as well as in the north of Sweden; a little below the freezing point over the whole of Northern, Eastern, and Central Europe. Slightly above 50° at the Spanish coast stations, and also over the Mediterranean. Maximum readings below 32° in many parts of Scotland.

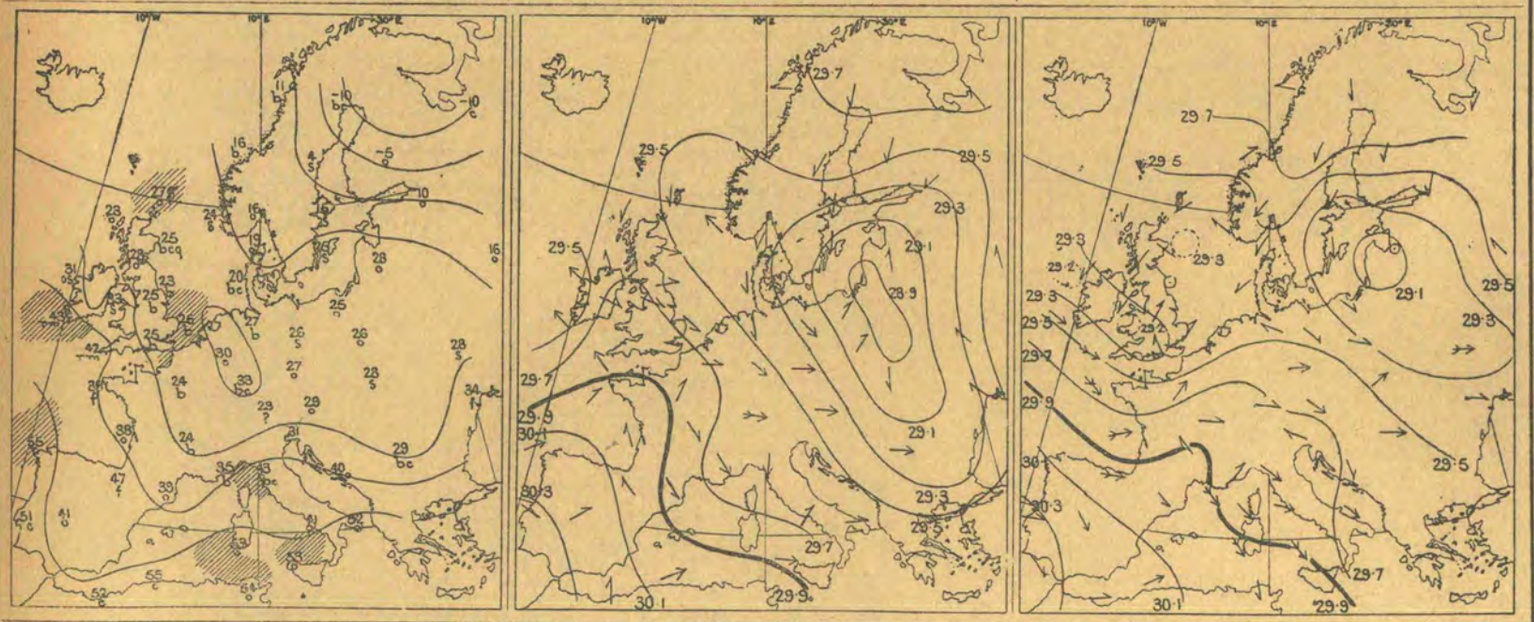
Wind strong to a gale from the North-Westward or Northward over the whole of Western Europe, and equally strong from West in Western Germany. Moderate from the South-Westward or Southward over Austria and Eastern Germany; Easterly over Scandinavia and Northern Russia, with gales at Stockholm and Færder. Gales over Western Europe, afterwards subsiding gradually.

Barometer highest, 30·2 ins. and upwards, to the westward and south-westward of the Iberian peninsula. Deep and complex depression of previous day now lying over Denmark and the south of Sweden; another small but well-defined disturbance shown near Nice. Both moving slowly eastwards during day, and barometer rising steadily in all parts of Western Europe.

Sunday, 10th February.

Temperature and Weather. **Barometer and Wind.**

8 a.m. **8 a.m.** **6 p.m.**



Weather fine in the north of Scandinavia, the eastern parts of Great Britain and Western Germany, as well as in the south of France and north of Italy. Dull elsewhere, with heavy snow in Ireland, Wales, and the northern parts of Germany and Austria. Solar halos seen in many parts of England and France in early morning. Heavy snow falling later over the whole of England, as well as at some of the French stations.

Temperature several degress below zero over Lapland and Northern Russia; considerably below the freezing point over the whole of Scandinavia and Russia, as well as in Denmark and the eastern and central parts of Great Britain and France. Above 50° on the coasts of Spain and Algeria, and also over Southern Italy. Maximum readings below 32° at several of our northern and central stations.

Wind moderate from North-East over Scandinavia and Northern Russia and from the North-Westward over the North Sea, the Netherlands, and North Germany. Strong from the Westward in South Germany; light from South-East or South over the central and southern parts of Russia. Strong to a gale from South-East in the west and south of Ireland; light from South-West in the north-west of France. Subsequently veering to West or North-West on our South-West coasts, and increasing to a gale.

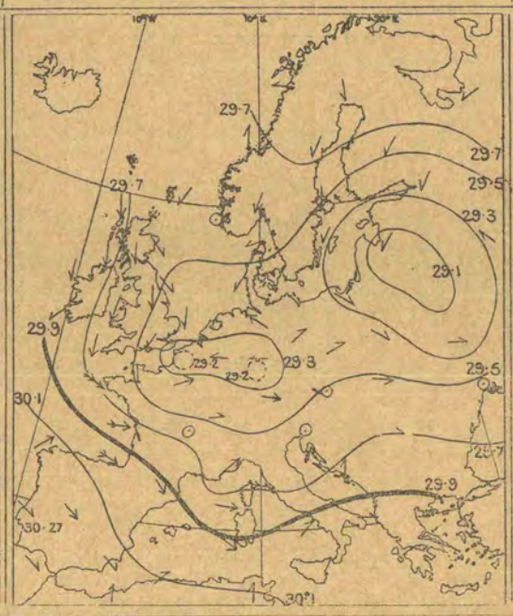
Barometer still highest, 30·3 ins. and upwards, in an anticyclone lying to the southward of the Iberian peninsula. Large depression of previous two days now lying over the Baltic Provinces and Western Russia; new disturbance approaching Ireland. Barometer falling quickly in the west and north of our Islands. Two small depressions advancing later over Ireland and Wales, occasioning brisk fall of the barometer in all parts of the United Kingdom.

II.—SUMMARY OF WEATHER OVER EUROPE.

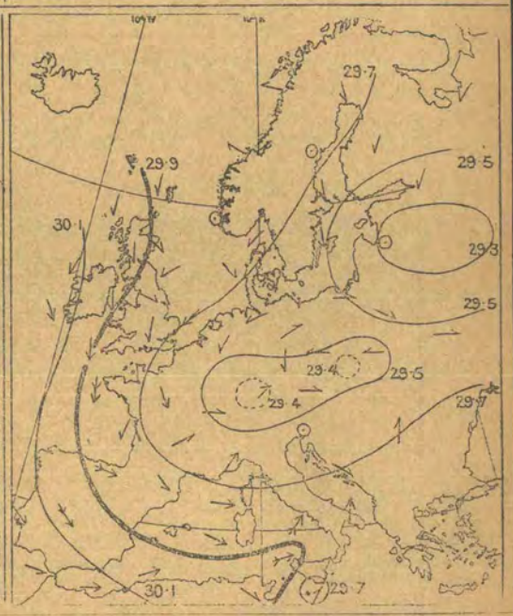
Monday, 11th February.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.**



6 p.m.



Weather fine over the western parts of the United Kingdom, and also in Algeria. Cloudy elsewhere, with snow in many parts of Great Britain, France, Germany, and Russia, and rain over Northern Italy. Decided improvement taking place later over England, but snow showers falling in Scotland and the north of Ireland.

Temperature very low (zero to −14° Fahr.) over Lapland and Northern Russia; considerably below the freezing point over the whole of Scandinavia and Denmark; a few degrees below 32° over the greater part of the United Kingdom, as well as in all parts of Northern and Central Europe. A little above 50° on the coasts of the Iberian peninsula, and also at most of the Mediterranean stations. Sharp frost occurring over England at night.

Wind moderate to strong from the North-Eastward over Northern Europe and from North over the British Islands, but strong to a gale from West or North-West in the west and north of France. Moderate from South-West or West over Germany, Italy, and Algeria; cyclonic circulation of light winds reported over Russia. Fresh South-Westerly gale experienced later at some of the Italian stations.

Barometer still highest to the south-westward of the Iberian Peninsula. Large depression of previous three days moving eastwards over Russia towards Moscow; small disturbances noticed over Ireland and Wales on Monday now lying over Western Germany and the north-east of France. Small depression lying near Nice. Depressions all continuing to move eastwards during day, and barometer rising over the whole of Western Europe.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the Btitish Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During this week pressure has been high over the Atlantic, low over Russia and Central Europe, and depressions have been passing in a south-easterly direction over Scandinavia, the North Sea, and the British Islands, keeping the weather in a most unsettled condition, and occasionally producing storms of great severity. One of these depressions, which passed over the south of Norway and Denmark between the 8th and 10th, was very deep, and the North-Westerly to Northerly gales which accompanied it were severe. A heavy fall of snow occurred with a shallower disturbance in its rear, on Sunday, and this was succeeded by hard frost and moderating Northerly breezes very generally. The changes of temperature as the disturbances advanced towards and passed away from our neighbourhood were very great.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
January 28, 1880 - - -	Bawtry - - - - -	49	28	45·9	32·0	39·2	+ 0·4	11	39	3	0·04	−0·38	—	—

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	44	23	34·0	26·0	30·0	− 9·0	0	84	7	0·99	+0·16	*	*
	Stornoway	44	20	36·0	27·7	31·9	− 7·3	0	71	6	1·95	+0·91	11·2	18
	Wick	44	23	35·9	27·7	31·8	− 6·9	0	71	7	1·03	+0·53	*	*
	Lairg Ⓢ	45	12	38·1	22·9	30·5	− 6·7	0	81	6	0·93	+0·13	*	*
	Glencarron Ⓢ	42	13	35·9	24·4	30·2	− 7·2	0	83	5	1·30†	?	0·0	0
	Fort Augustus Ⓢ	47	10	38·6	24·4	31·5	− 7·1	0	74	5	0·57†	?	*	*
1. SCOTLAND, E.	Nairn	47	20	36·4	28·1	32·3	− 6·2	0	68	5	0·29	−0·11	*	*
	Aberdeen	44	22	36·1	28·4	32·3	− 5·7	0	68	7	0·81	+0·20	21·8	36
	Braemar Ⓢ	44	17	38·1	24·4	31·3	− 2·9	0	75	4	0·89	+0·09	12·2‡	20‡
	Ochtertyre Ⓢ	52	20	41·7	25·7	33·7	− 4·0	0	58	2	0·07	−1·10	*	*
	Leith	50	22	41·0	28·4	34·7	− 4·2	0	51	4	0·18	−0·23	*	*
	Marchmont Ⓢ	43	16	37·0	25·7	31·4	− 5·1	0	74	6	0·77	+0·13	27·0	44
2. ENGLAND, N.E.	Alnwick Castle	42	20	36·9	27·6	32·3	− 6·2	0	68	3	0·30	−0·28	*	*
	Durham	?46	22	38·5	26·8	32·7	− 6·3	0	65	3	0·21	−0·24	24·3	39
	Shields	46	21	39·7	28·3	34·0	− 5·0	0	56	3	0·31	−0·09	*	*
	Scarborough ℳ	43	23	37·8	28·7	33·3	− 5·2	0	61	6	0·68	+0·23	14·1‡	22‡
	York	46	21	39·4	28·4	33·9	− 5·1	0	57	4	0·38	−0·09	?	?
	Spurn Head	43	25	38·1	31·0	34·6	− 4·4	0	52	5	0·35	?	*	*
3. ENGLAND, E.	Hillington ℳ	44	22	38·9	28·2	33·6	− 5·3	0	59	4	0·92	+0·44	10·3	16
	Yarmouth	44	23	37·0	28·4	32·7	− 7·3	0	65	7	0·60	+0·10	*	*
	Geldeston	47	23	39·4	28·2	33·8	− 6·4	0	57	4	0·40	0·00	16·1	25
	Cambridge	47	20	39·7	26·7	33·2	− 6·6	0	62	4	1·05	+0·66	9·0	14
	Rothamsted	48	21	39·3	27·7	33·5	− 5·8	0	60	4	0·94	+0·35	*	*
	Ingatestone	47	22	38·2	27·7	33·0	− 6·8	0	63	5	0·96	+0·56	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	46	23	40·3	29·1	34·7	− 5·3	0	51	4	0·70	+0·28	15·3‡	24‡
	Loughborough	47	24	39·9	29·3	34·6	− 4·9	0	52	3	1·03	+0·53	12·3‡	19‡
	Cheadle ℳ	47	21	37·8	27·3	32·6	− 6·3	0	66	5	1·42	+0·72	*	*
	Churchstoke ℳ	47	18	40·0	27·2	33·6	− 6·6	0	59	3	0·71	0·00	12·5	19
	Hereford ℳ	49	23	41·6	29·0	35·3	− 5·1	0	47	4	0·95	+0·35	*	*
	Cirencester	47	19	40·1	27·4	33·8	− 5·9	0	57	5	0·76	+0·05	14·3	22
	Oxford	49	23	39·7	28·7	34·2	− 6·1	0	55	6	0·74	+0·23	10·2	16
5. ENGLAND, S.	London	50	22	39·9	28·9	34·4	− 6·4	0	53	5	1·01	+0·52	6·3‡	10‡
	Strathfield Turgiss ℳ	49	22	41·1	28·9	35·0	− 5·4	0	49	3	0·85	+0·27	*	*
	Dungeness	46	21	40·7	27·7	34·2	− 7·1	0	55	4	0·89	+0·33	*	*
	Hastings (St. Leonard's)	47	21	40·1	29·5	34·8	− 6·3	0	50	6	1·11	+0·54	11·6	18
	Southampton	51	24	43·2	30·0	36·6	− 4·2	3	43	5	0·70	−0·04	8·8	13
	Hurst Castle	48	27	43·7	31·4	37·6	− 4·4	5	39	5	0·68	+0·02	*	*
	Stowell ℳ	49	25	41·1	30·3	35·7	− 5·2	0	44	7	0·97	?	4·5‡	7‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	45	19	39·1	27·8	33·5	− 6·2	0	60	6	0·80†	−1·31	*	*
	Glasgow	45	24	38·7	29·5	34·1	− 4·9	0	55	3	0·29	−0·67	24·9	40
	Ardrossan	46	26	39·7	31·0	35·4	− 4·1	0	46	1	0·16	−0·74	*	*
	Glenlee Ⓢ	45	20	39·0	27·1	33·1	− 4·8	0	62	3	0·70	?	*	*
	Douglas (Isle of Man)	46	23	40·3	32·5	36·4	− 4·6	0	39	6	1·46	+0·47	23·5	37
7. ENGLAND, N.W.	Newton Reigny (Penrith)	45	19	37·6	26·6	32·1	− 5·9	0	69	3	0·47	−0·34	20·2	32
	Barrow-in-Furness	46	24	40·4	31·7	36·1	− 4·8	0	41	5	0·82	+0·11	*	*
	Stonyhurst	49	21	40·1	27·0	33·6	− 5·7	0	59	5	0·94	−0·02	24·3	38
	Blackpool ℳ	48	27	40·9	32·7	36·8	− 4·2	0	36	5	0·96	+0·32	21·7	34
	Manchester	46	22	39·0	28·3	33·7	− 6·3	0	58	5	0·92	+0·28	*	*
	Liverpool Obsy (Bidston)	47	22	40·4	31·9	36·2	− 4·8	0	41	5	1·35	+0·78	*	*
	Llandudno ℳ	46	28	42·6	33·2	37·6	− 4·4	0	31	5	1·25	+0·63	4·4	7
	Holyhead	48	29	42·9	35·3	39·1	− 3·9	3	24	7	0·90	+0·16	*	*
8. ENGLAND, S.W.	Llandovery	49	16	42·9	26·9	34·9	− 6·1	3	53	6	1·41	+0·23	*	*
	Pembroke	49	29	44·6	36·6	40·6	− 2·5	7	21	4	0·58	−0·24	14·8	23
	Arlington (N. Devon)	47	27	42·3	32·3	37·3	− 3·7	1	34	6	1·10	−0·10	*	*
	Cullompton ℳ	49	25	43·9	32·8	38·4	− 3·6	5	34	6	1·03	+0·20	12·7	19
	Falmouth	51	32	47·1	36·7	41·9	− 2·0	14	22	7	0·90	−0·30	13·3	20
	Plymouth	51	29	46·1	36·8	40·0	− 3·2	11	32	5	0·67	−0·20	16·8	25
	Prawle Point	48	27	44·7	32·1	38·4	− 4·6	8	37	4	0·64	?	*	*
9. IRELAND, N.	Malin Head	46	28	40·9	34·0	37·5	− 2·8	0	32	4	0·48	?	*	*
	Londonderry	49	22	42·6	31·6	37·1	− 3·4	2	37	7	1·23	+0·44	*	*
	Mullaghmore	48	29	42·7	35·9	39·3	− 1·9	2	22	7	0·75	−0·13	*	*
	Belmullet	50	30	44·9	37·9	41·4	− 2·4	8	16	7	1·43	?	*	*
	Markree Castle	50	11	42·5	30·7	36·6	− 4·0	1	40	7	1·04	+0·34	16·3	25
	Brookeborough	48	10	41·3	26·8	34·1	− 5·8	0	55	6	1·01	?	*	*
	Armagh	48	21	40·4	30·1	35·3	− 5·1	0	47	5	0·54	−0·11	16·8	26
	Donaghadee	46	29	41·4	33·3	37·4	− 3·6	0	32	7	0·74	+0·03	*	*
	Edgeworthstown	48	17	41·3	29·3	35·3	− 4·5	0	47	5	0·43	−0·37	*	*
10. IRELAND, S.	Dublin	50	22	42·9	32·2	37·6	− 4·2	3	35	6	0·95	+0·39	20·0	31
	Parsonstown	51	22	44·4	32·6	38·5	− 2·0	7	35	5	0·37	−0·27	16·2	25
	Kilkenny	50	25	44·4	32·6	38·5	− 1·3	7	35	5	0·66	+0·09	*	*
	Waterford	51	25	45·6	32·7	39·2	− 3·8	10	35	4	0·47	−0·57	*	*
	Roche's Point	51	30	47·3	37·9	42·6	− 1·3	21	11	5	0·85	−0·40	*	*
	Valencia	54	35	49·4	41·0	45·2	− 0·2	27	3	7	0·83	−0·50	21·7	33
	Killarney	50	30	48·2	37·3	42·8	− 0·7	25	13	6	0·93	?	*	*
	Foynes	50	30	47·0	36·4	41·7	+ 0·5	14	23	6	0·99	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	51	38	48·0	41·1	44·6	− 1·4	23	3	7	0·61	−0·17	*	*
	Jersey	49	32	46·9	36·3	41·6	− 0·7	14	23	7	0·84	+0·15	13·5	20

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked Ⓢ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, and Laudale being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the first and second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 7.] *Third Series.* WEEK ENDING MONDAY, 18TH FEBRUARY, 1889. [*Price 6d.* [*Annual subscription, post paid*, £1 10*s.* 0*d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 42.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	52	18	42·8	31·5	37·2	1 below.	2	− 6	38	+10	45	+ 3	245	+20
	1. SCOTLAND, EAST	57	24	45·8	32·3	39·1	1 above.	11	− 1	37	+ 6	58	+11	268	− 7
	2. ENGLAND, N.E.	54	22	45·5	33·1	39·3	0 (average).	10	− 2	33	+ 5	41	− 8	254	+ 2
	3. ENGLAND, EAST	58	6	45·7	29·2	37·5	3 below.	10	− 5	48	+21	32	−29	340	+72
	4. MIDLAND COUNTIES	56	19	47·7	31·4	39·5	1 below.	16	0	41	+15	45	−27	312	+50
	5. ENGLAND, SOUTH	58	14	47·2	30·6	38·9	3 below.	15	− 3	44	+25	48	−33	254	+48
Principal Grazing, &c. Districts	6. SCOTLAND, WEST	52	23	47·0	35·4	41·2	2 above.	14	+ 1	27	+ 5	74	+ 8	181	−23
	7. ENGLAND, N.W.	54	23	46·3	35·6	41·0	0 (average).	12	− 1	26	+ 4	50	−13	184	−23
	8. ENGLAND, S.W.	54	20	48·3	36·0	42·1	1 below.	25	+ 5	17	+ 6	94	−31	145	+26
	9. IRELAND NORTH	54	14	48·4	36·1	42·3	2 above.	27	+10	17	− 2	101	+12	148	−33
	10. IRELAND, SOUTH	57	22	51·3	38·3	44·8	2 above.	35	+11	10	− 2	150	+ 7	104	−16
	— CHANNEL ISLANDS	52	33	49·2	39·9	44·6	0 (average).	27	+ 1	6	+ 2	164	+13	32	−29

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 42.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	7	26	9 more.	39	+5	9·0	+1·7	5	8	36	−22	10	− 5
	1. SCOTLAND, EAST	6	6	1 less.	29	+5	2·8	−1·9	19	28	97	+ 9	25	+ 2
	2. ENGLAND, N.E.	3	1	4 less.	24	−1	1·8	−1·5	20	29	85 *	+31	21	+ 8
	3. ENGLAND, EAST	3	3	2 less.	24	−2	2·1	−1·1	23	33	83	+ 1	20	0
	4. MIDLAND COUNTIES	4	3	3 less.	24	−2	2·6	−1·5	16	24	74	+ 5	18	+ 2
	5. ENGLAND, SOUTH	4	7	1 more.	25	−1	2·8	−1·5	17	25	73	+ 2	17	+ 1
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	7	19	2 more.	32	+1	7·4	−1·7	15	22	84	+24	21	+ 6
	7. ENGLAND, N.W.	6	9	2 more.	28	+1	3·8	−1·4	17	26	79	+18	19	+ 4
	8. ENGLAND, S.W.	6	16	6 more.	27	−2	5·2	−1·9	17	25	93	+10	22	+ 2
	9. IRELAND, NORTH	6	9	1 more.	37	+5	5·8	+0·5	20	30	72	− 9	18	− 2
	10. IRELAND, SOUTH	6	11	2 more.	33	+1	6·4	−0·3	20	30	93	+ 1	22	0
	— CHANNEL ISLANDS	7	10	2 more.	33	+1	4·2	−1·3	17	24	113	− 5	26	− 1

General Remarks.

Weather has varied considerably in different parts of the Kingdom and on different days. At the commencement of the period it was cold, and showers of snow were very general, but as the week progressed it became mild, with occasional rain in the east and south-east and frequent falls in Ireland, Scotland, and the western parts of England. Over south-eastern and central England the weather towards the end of the period became very mild and springlike.

Temperature has fallen to a lower point than during any previous week of the present winter. Thus, the minimum on the 12th was as low as 6° at Hillington, while in several other places readings between 16° and 20° were registered; on the 13th the thermometer fell to 9° at Rothamsted, 10° at Ingatestone, and to between 13° and 20° at most of our other south-eastern stations. From this time, however, temperature rose quickly, and towards the end of the week maxima as high as 52° to 57° were recorded in Scotland, 54° to 57° in Ireland, and 54° to 58° in England. The average for the week has not differed materially from the mean for the time of year; in Ireland and the greater part of Scotland it has been slightly above, but in most of the English districts it has been below; in "England, E." and "England, S." a deficit of 3° is shown.

Rainfall has been less than the mean in the north-eastern and eastern parts of Great Britain, but more elsewhere.

Bright sunshine has been rather more prevalent as a whole than it was last week, the percentage of the possible amount of duration having ranged from 8 in "Scotland, N." to 128 in "Scotland, W." and to 33 in "England, E."

Barometer and Wind.—During the whole of this period the barometer was highest over the south-western parts of our area, while depressions travelled eastwards or south-eastwards over our extreme northern coasts, the North Sea, and Scandinavia. None of these disturbances were of any great depth, and the wind was consequently generally moderate to fresh from between West and North-West. On the 16th, however, it increased to a moderate to strong gale from the South-Westward or Westward at some of our northern and north-western stations as a well-defined depression advanced from the Atlantic.

* This value has been altered owing to the receipt of further information.

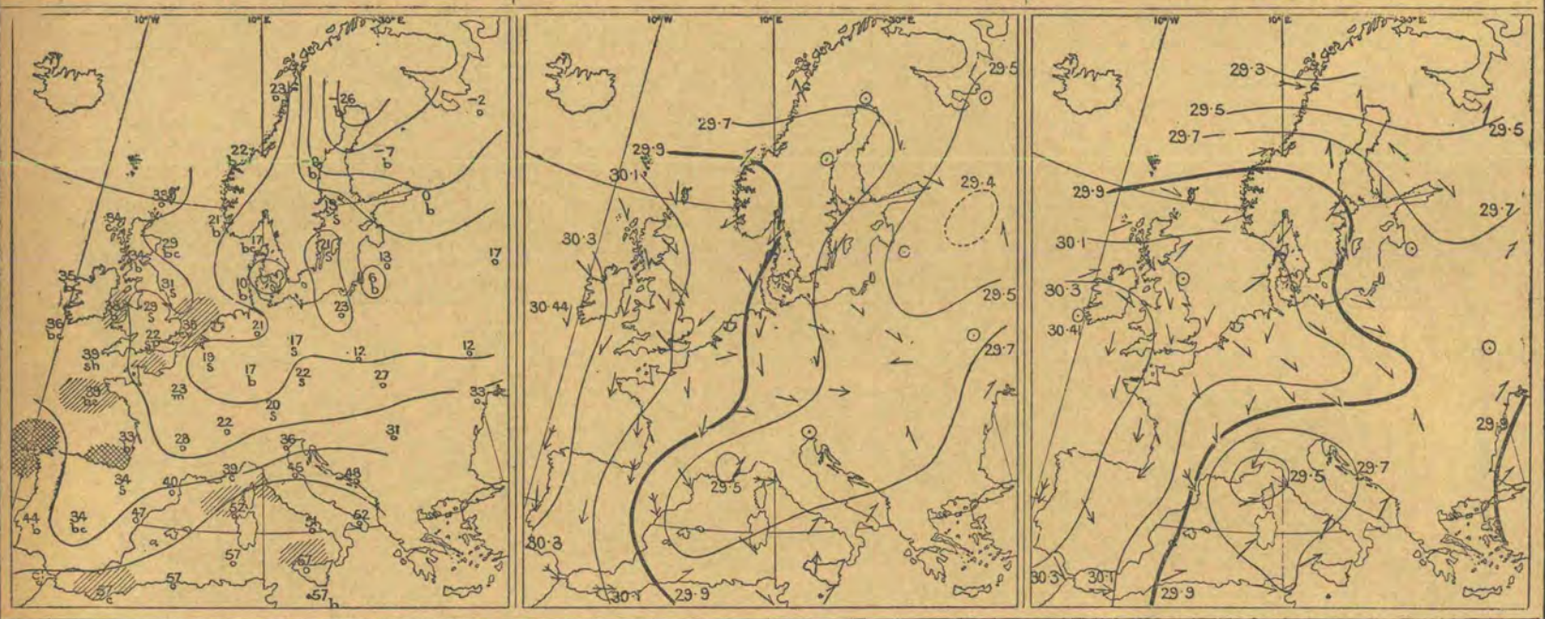
A 57591. 350.—2/89. Wt. 37. E & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 12th February.

Temperature and Weather. | **Barometer and Wind.**

8 a.m. | **8 a.m.** | **6 p.m.**



Weather fine over the greater part of Northern and North-Western Europe as well as over Central Spain. Cloudy or overcast elsewhere, with snow in Germany, the north-east of England, and the north of Spain. Heavy rain falling later over Northern Italy, and weather becoming dull and unsettled in the extreme west and north of our Islands.

Temperature exceedingly low in Lapland (Haparanda −26° Faht.); a little below zero over Finland and Northern Russia; considerably below the freezing point over the whole of Northern and Central Europe. A little above 55° over the central and southern parts of the Mediterranean. Rise taking place later in the west and north of the United Kingdom, and also in Scandinavia, but sharp frost occurring over England and Central Europe at night.

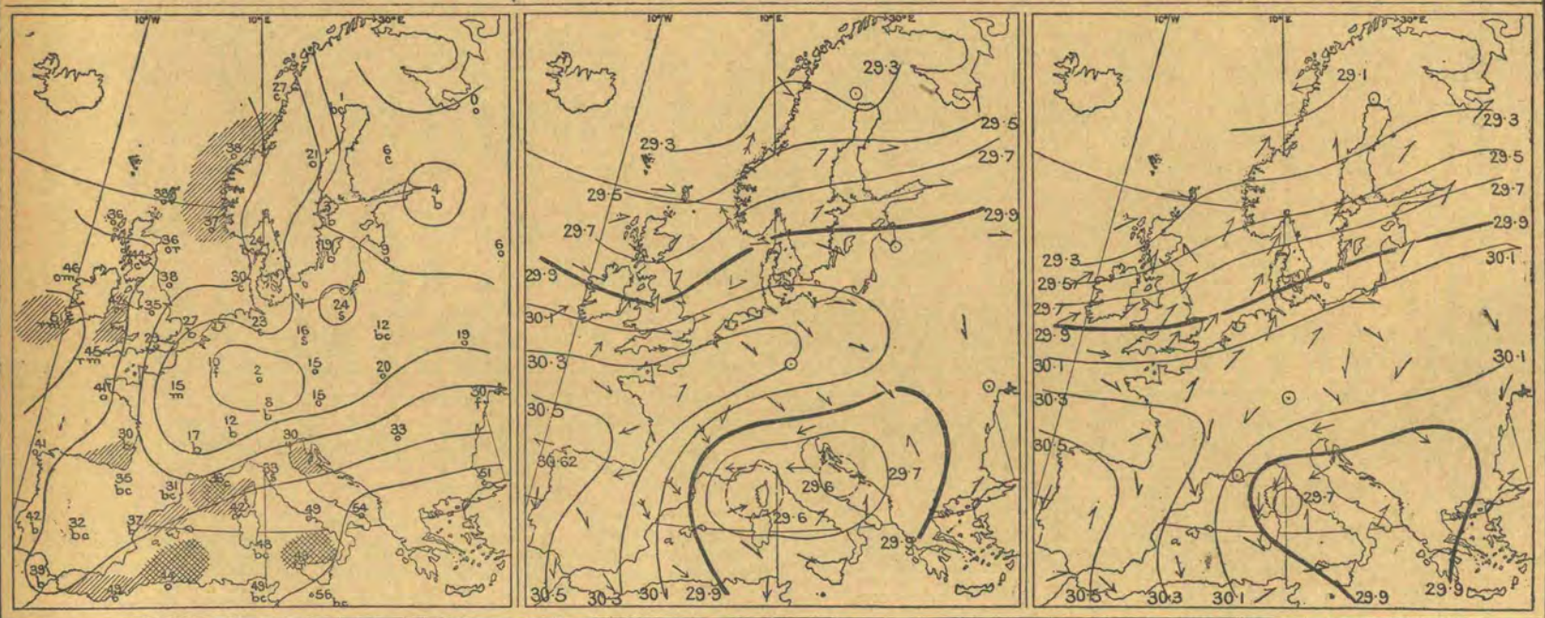
Wind North-Westerly in the north of our Islands and South-Westerly or Southerly in the west of Norway, but Northerly in all other parts of Western and Northern Europe; strong to a gale in force over Spain and the south of France. Moderate to strong from the westward in Algeria, and from the South-Westward in Italy. Cyclonic circulation of light winds reported over Central Russia. Subsequently backing to the Westward or South-Westward in the extreme west and north of our Islands.

Barometer highest, 30·4 ins. and upwards, in a large anticyclone lying to the westward of our Islands and Spain. Lowest, 22·4 ins. and less, in a shallow depression lying between St. Petersburg and Moscow; 29·5 ins. and less in a somewhat deeper disturbance lying near Nice; 29·6 ins. and less in a third system lying off the north-west of Norway. Deep depression forming later over Gulf of Genoa; new disturbances approaching the north of our Islands from Atlantic.

Wednesday, 13th February.

Temperature and Weather. | **Barometer and Wind.**

8 a.m. | **8 a.m.** | **6 p.m.**



Weather fine over Sweden, the Gulf of Finland, Denmark, Spain, South Germany, and the east of France. Dull in most other localities, with rain in the west and north of the United Kingdom, and snow at some of the German and Austrian stations, as well as at Leghorn. Considerable amounts of rain falling later in nearly all parts of Western Europe, largest being 0·9 in. at Cape Gris Nez.

Temperature very low over the whole of Northern and Central Europe, lowest readings being −4° F. at St. Petersburg, −3° at Munster, 0 zero at Archangel, and +2 at Wiesbaden. Several degrees below the freezing point in the extreme south-east of England. Above 45° in the south-west of our Islands and over the greater part of the Mediterranean; above 50° over Southern Italy. Rapid rise taking place in the south-east of England at night.

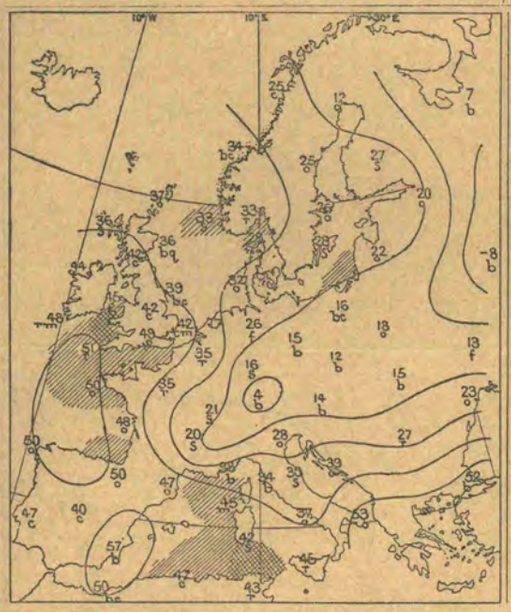
Wind light from the Westward or North-Westward in the extreme north and north-west of our Islands and also over Central Europe. South-Westerly over England, the North Sea, and the greater part of Northern Europe; strong in force on our western coasts. Strong North-Westerly gales, reported in the south of France, moderate Easterly or North-Easterly gales in the south-east of France and Northern Italy. Subsequently backing to the South-Westward in the extreme north and north-west of our Islands.

Barometer highest, 30·6 ins. and upwards, in an anticyclone lying off the Portuguese coasts. Lowest, 29·3 ins. and less, in a large depression lying off the west of Norway, and in another disturbance lying over Lapland; 29·5 ins and less in a well marked and rather deep depression lying over the Gulf of Genoa. Shallow secondary disturbances moving eastwards across the United Kingdom during day; larger disturbance approaching the west of Scotland at night.

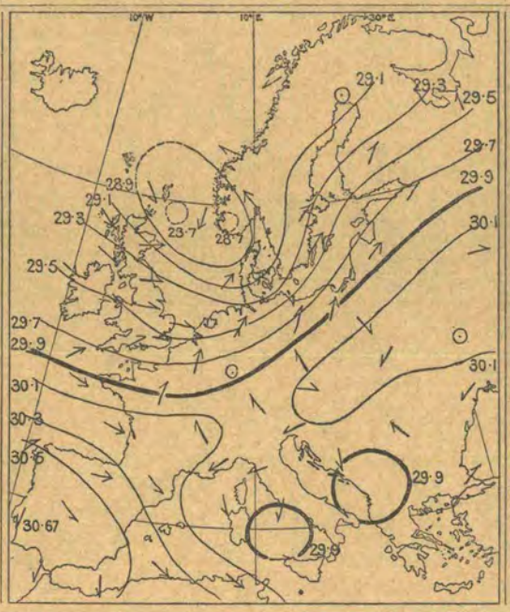
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 14th February.

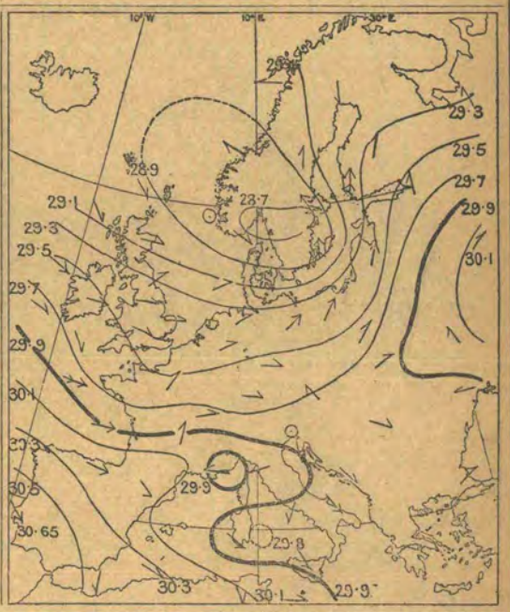
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather fine in Germany, the north of Italy, the southern parts of France and Spain, and Western Algeria. Cloudy or overcast elsewhere, with rain in the western and southern parts of the United Kingdom and the north of France, snow in Finland, Denmark, the south of Scandinavia and the east of France, as well as in the Hebrides. Some improvement taking place later in the west of our Islands, but heavy rain falling in France, largest amounts being 1·7 ins. at Besançon and 1·2 ins. at Limoges.

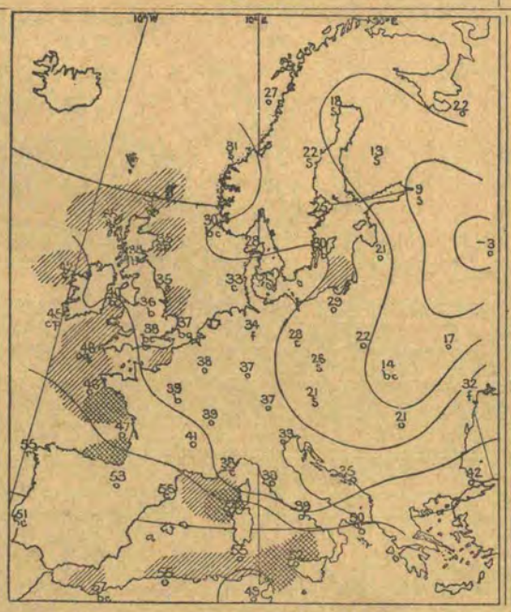
Temperature very low over Central Russia, and also over Bavaria and Bohemia (Moscow, −8° Fahr., Munich and Prague, +4° Fahr.); considerably below the freezing point over the whole of Northern and Central Europe; below 35° over the Riviera and Northern Italy. A little above 50° on the shores of the Bay of Biscay, and also over Western Algeria. Fall taking place over England later.

Wind fresh from the North-Westward in the extreme west and north of our Islands, and moderate to strong from the Westward over Great Britain and west of France. Strong to a gale from South-West or South over the Netherlands, Denmark, and the Baltic; Easterly or North-Easterly in the west of Norway. Chiefly North-Easterly on the northern shores of the Mediterranean, but Westerly or North-Westerly in Algeria. Subsequently veering to the North-Westward in all parts of our Islands, and increasing to a gale in the north and east of Scotland.

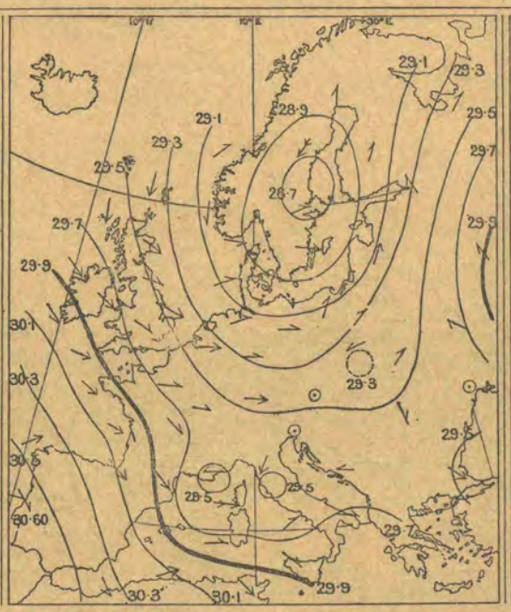
Barometer highest, 30·6 ins. and upwards, in an anticyclone lying over the southern parts of the Iberian peninsula; high, 30·1 ins. and upwards, in another area lying over Central Russia. Lowest, 28·7 ins. to 28·8 ins., in a deep and somewhat complex depression extending from the south of Norway to the neighbourhood of the Shetlands. Two shallow disturbances lying respectively to the eastward and westward of Italy. Depression in the north subsequently moving eastwards to Sweden, and shallow secondary disturbances passing across the United Kingdom.

Friday, 15th February.

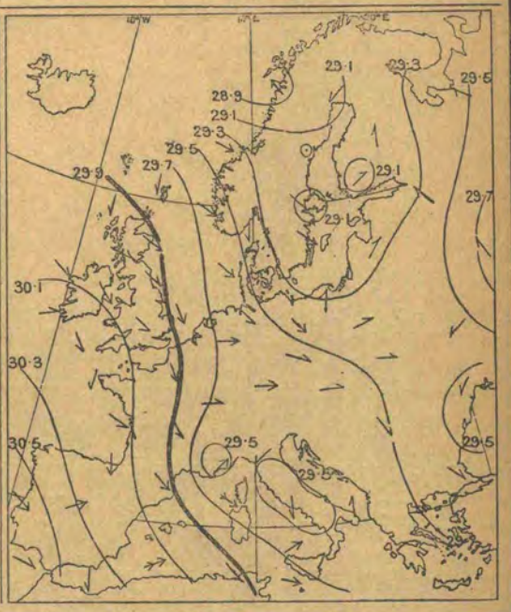
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather fine over the greater part of Ireland and England, as well as on the eastern shores of the North Sea. Cloudy or overcast elsewhere, with snow in Finland, Austria, and South Germany, as well as in some parts of Norway and Scotland. Improvement taking place in Scotland later, but rain falling at some of the Mediterranean stations, and thunderstorm occurring at Rome.

Temperature a little below zero over Central Russia; considerably below the freezing point over the whole of Russia, Austria, South Germany, and the north of Sweden; slightly below 32° in Norway and Denmark. Above 45° in the extreme south-west of England; above 50° on the coasts of the Iberian peninsula, and also at several of the Mediterranean stations; highest reading of all being 57° at Oran. Frost occurring over Great Britain at night.

Wind fresh or strong from the North-Westward over the greater part of Western Europe, moderate from West over the more central countries, and strong from South-West or South over the Baltic and Gulf of Finland. Moderate to strong from the Westward over the central and southern parts of the Mediteranean, but Easterly or North-Easterly over the south of France and Northern Italy. Subsequently backing to the Westward or South-Westward in the extreme west of our Islands.

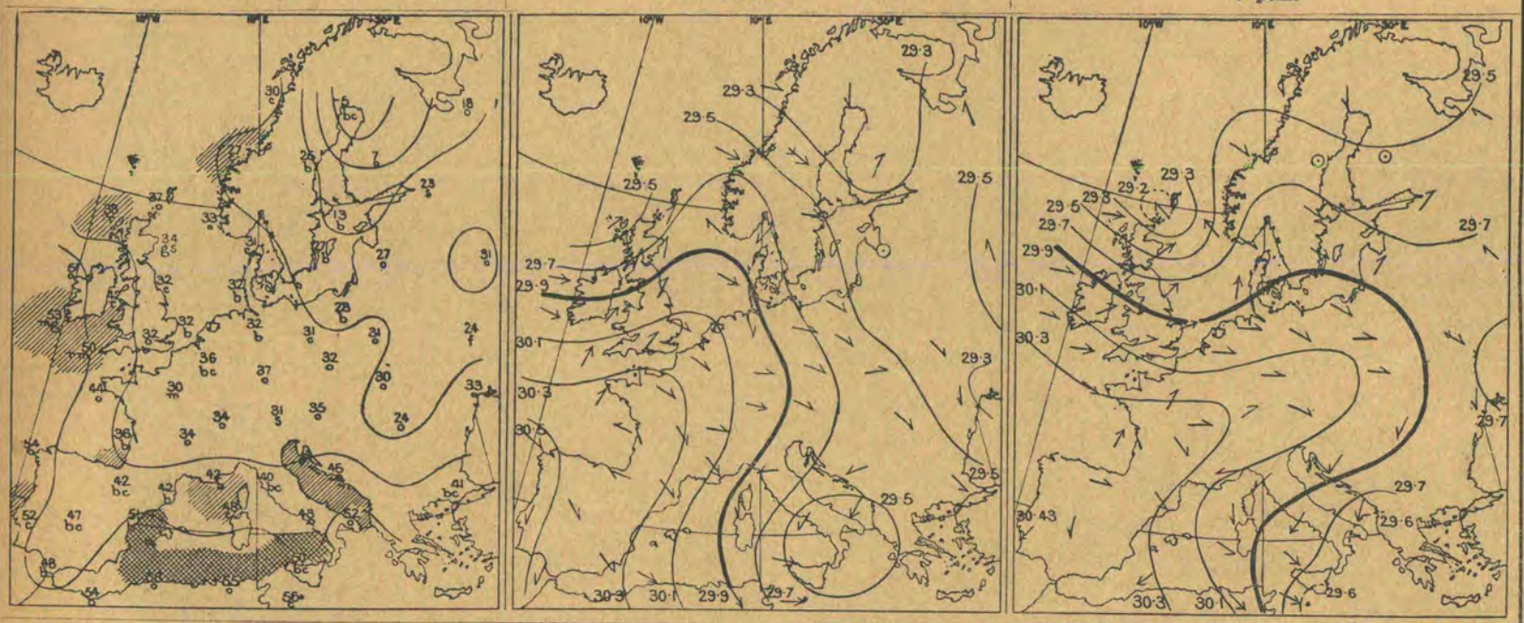
Barometer highest, 30·6 ins. and upwards, in an anticyclone lying to the south-westward of the Iberian peninsula; somewhat high, 29·9 ins. and upwards, over Central Russia. Lowest, 28·7 ins. and less, in a depression lying over the southern part of the Gulf of Bothnia; low, 29·5 ins. and less, in two small depressions lying in the neighbourhood of the Gulf of Genoa. Barometer rising in our Islands and Norway, falling elsewhere. Depression over Northern Europe partially filling up later, but large area of low readings forming over Italy.

II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 16th February.

Temperature and Weather. | **Barometer and Wind.**

8 a.m. | **8 a.m.** | **6 p.m.**



Weather very variable; fine on the northern shores of the Mediterranean, fair over the east of England, the North Sea, and Baltic, cloudy or overcast in most other places, with snow at some of the Russian stations, in Scotland, and at Munich; rain in the west and north-west of our Islands. Solar halo seen at some English stations. Rain or sleet later in all parts of our Islands and in many parts of France and Germany.

Temperature changing abruptly over the United Kingdom and France; very low over Northern Russia and Lapland, and low, for the position, over South Germany, Switzerland, and Northern Italy also. Morning readings of − 5° Faht. at Haparanda, zero at Uleaborg, 7° at Kuopio, 13° at Stockholm, 30° at Paris, and 32° at Pesaro and in London; but 58° at Algiers, 54° at Corunna, 53° at Valencia (Ireland), 52° at Brindisi, and 50° at Scilly. Decided rise over Great Britain later.

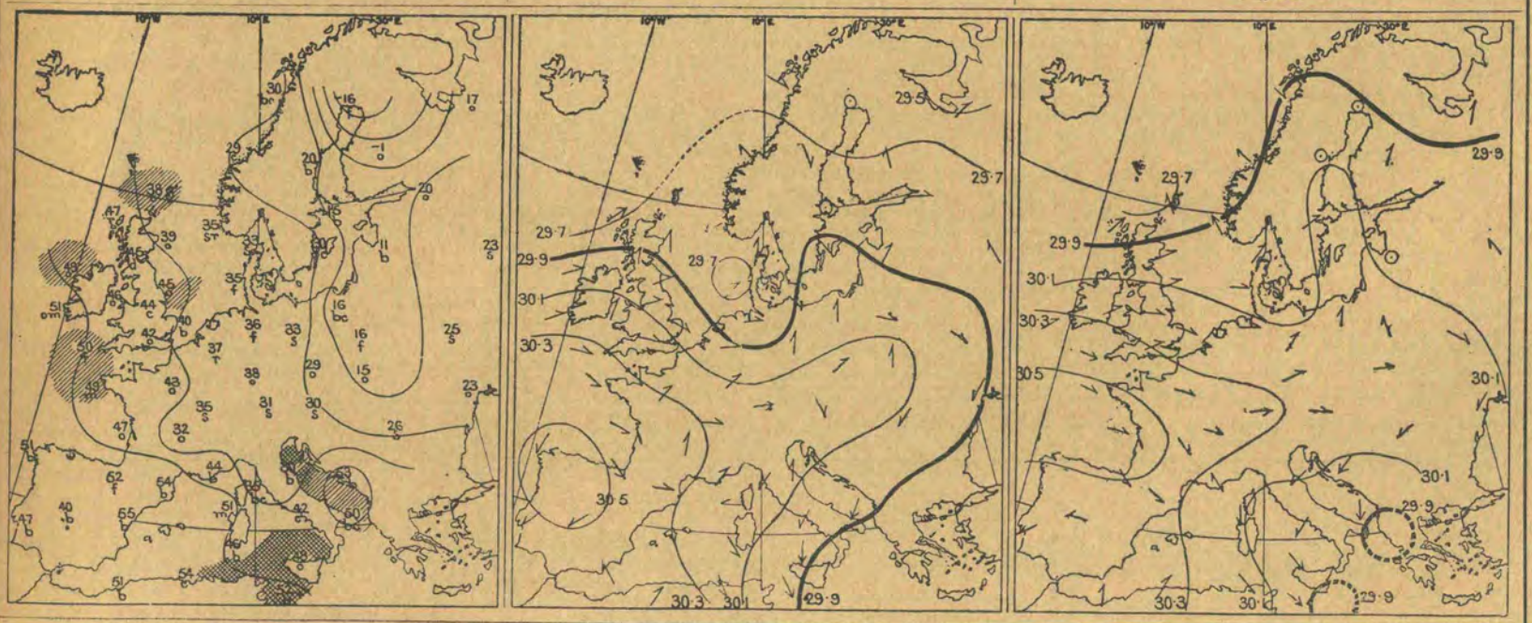
Wind moderate North-Westerly over Scandinavia, the Baltic, and Central Europe, North-Easterly to North-Westerly, moderate to a gale, over the Mediterranean; Northerly, moderate over Spain; but Southerly to Westerly over the British Islands, and blowing strongly on the West and North-West coasts. Subsequently blowing a gale from South-West and West over the northern parts of Great Britain, but moderating over the Mediterranean.

Barometer high, 30·2 ins. to 30·5 ins., over Spain, and France, and Belgium; low, 29·5 ins. and less, over Sicily and the south of Italy, 29·2 ins. to 29·4 ins. in a long band stretching southwards from Lapland and Finland across Western Russia to the Black Sea, and 29·4 ins. and less in a new depression advancing from the Atlantic towards Scotland. The disturbance over Russia beginning to break up later, while that off our north-west coasts advanced to the Pentland Firth, and apparently grew deeper. Some recovery of pressure taking place over Ireland and the west of France later.

Sunday, 17th February.

Temperature and Weather. | **Barometer and Wind.**

8 a.m. | **8 a.m.** | **6 p.m.**



Weather less fair than on Saturday over Central and Eastern Europe; snow falling at many places in the southern parts of France, Germany, Austria, and Russia, as well as at Berlin and in the south of Norway. Finer over North-Western and Northern Europe, but foggy and wet about the mouths of the English, Irish, and Bristol Channels, as well as at some of our north-western stations. Subsequently becoming mild and pleasant over our Islands and the north of France, but wet fog continuing in the south-west.

Temperature falling over Finland, Eastern and South-Eastern Europe, rising in the north-west, especially over the British Islands, where the 8 a.m. readings were nearly all above 40°, and at several of our western stations reached 50°. Readings of 53° recorded in the north of Spain and 54° at La Calle; but − 16° F. at Haparanda, − 6° at Uleaborg, − 1° at Kuopio, +11° at Memel, 15° at Lemberg, 16° at Warsaw and Neu Fahrwasser, 30° at Pesaro, 31° at Turin and Berne, and 32° at Florence. Great rise over England and France later, the maxima being 56° at Paris and 58° at Cambridge and in London.

Wind South-westerly and Westerly over the United Kingdom and the Netherlands, Southerly in Denmark, and Easterly in the South of Norway; Westerly over the Baltic, very variable over Central Europe, North-Westerly over the Bay of Biscay, and Northerly over the Mediterranean. Still strong to a gale at Brindisi and Malta, and on some of our own North-Western coasts, moderate or light elsewhere. Little change later.

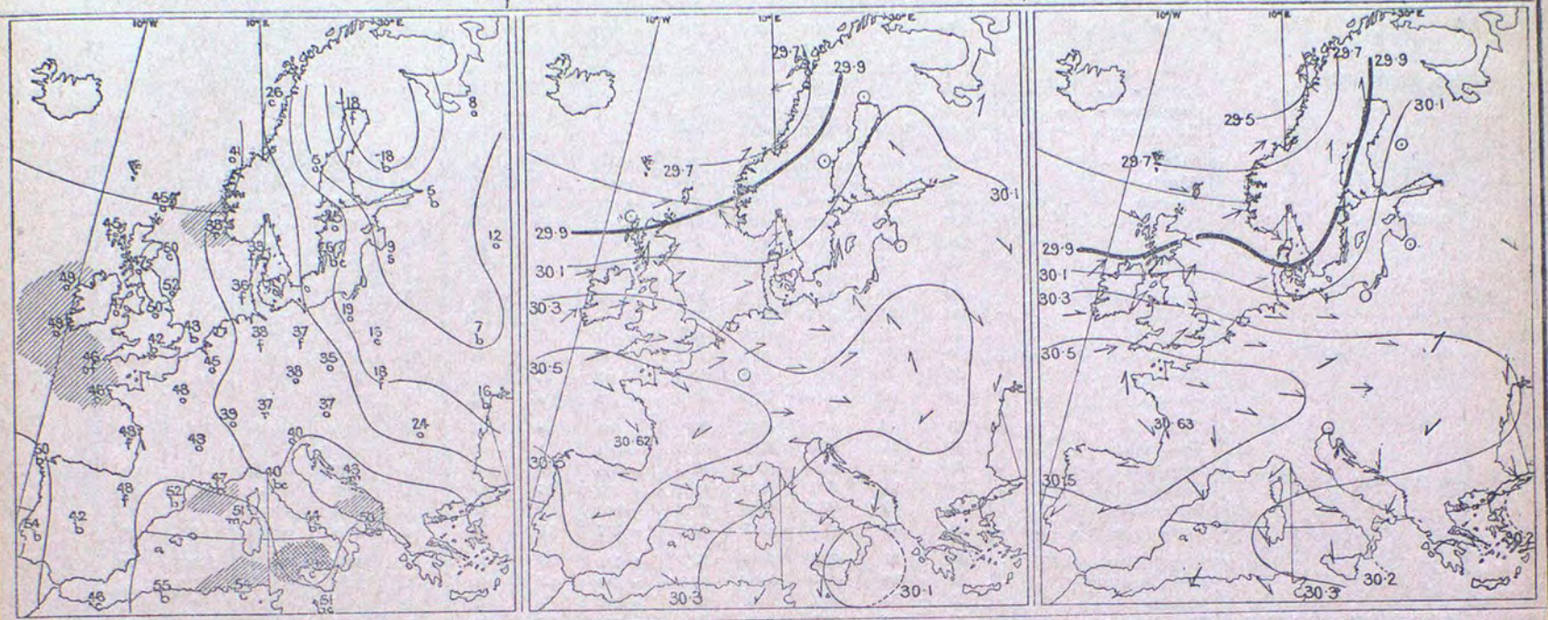
Barometer still highest, 30·3 in. to 30·5 in., over Spain and France, whence a ridge extended across the southern parts of France and Germany to Western Russia, with pressures in it varying from 30·1 ins. to 30·3 ins.; lowest 29·5 ins. and less over the North of Russia, 29·7 ins. and less off our extreme north and north-west coasts, and 29·9 ins. and less over the Gulf of Taranto and neighbouring countries. The depression noticed over our northern coasts on Saturday now found on the Danish Coast, moving south-eastwards and filling up quickly. Barometer rising very generally later.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 18th February.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather steadily fine and bright over Southern Europe, changeable elsewhere, but at time of morning observation fine and bright over Finland and the east of England, dull and gloomy in other regions, with fog and mist in several places; rain on some parts of our western and southern coasts and at Munich, snow at Riga. Rain later over all the western and northern parts of the British Isles, but amounts small.

Temperature fallen over Northern and Eastern, risen over Western and Southern Europe; much below zero (Faht.) over Finland, and considerably below the freezing point in Russia and Poland generally; readings as high as 50° or more over the southern parts of the Mediterranean and on the Spanish and Portuguese coasts only; 37° at Berlin, 42° in London, and 48° in Paris. Rising over England during the day, but falling decidedly in Scotland at night.

Wind South-Westerly and Westerly over the British Islands and North Sea, Southerly to South-Easterly over the Baltic and southern parts of Scandinavia, Easterly at Bodö. In Russia and France it was very light and variable, in Central Europe Westerly, over the Mediterranean North-Easterly and Northerly, and in Portugal Easterly. South-Westerly wind increasing in force over the British Isles later, and veering towards West at the northern stations.

Barometer highest (30·4 ins. to 30·6 ins.) in an anticyclone covering Western Europe, and rather high, 30·4 ins. to 30·2 ins., in a ridge extending thence across Central Europe to Western Russia. Readings decreasing in a northerly direction to 29·7 ins. and less in the Western Russia. Readings decreasing in a northerly direction to a little below 30·1 ins. over the extreme west of Norway, and in a Southerly direction to a little below 30·1 ins. over the extreme south of Italy and western part of Sicily. Barometer falling in the extreme north-west during the day, rising a little elsewhere. Shallow depression approaching the north of Scotland from the westward later.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟹ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the whole of this week pressure has been highest over the Atlantic, whence a "ridge" of varying form has extended eastwards over the Continent. At first this ridge lay over the British Isles and North Sea, and was imperfectly developed, but subsequently took up a more southerly position and became clearly defined. The depressions which appeared off our northern coasts continued to move, therefore, in a south-easterly direction, and their North-Westerly winds brought low temperatures and cold showers to our coasts. As, however, a second high-pressure area showed itself occasionally over Eastern Russia, the south-easterly movement was less decided and regular than during the previous week, and the disturbances filled up soon after reaching the land. Towards the close of the week the barometer had risen generally over Central and Eastern Europe, the wind had become Westerly and South-Westerly over the British Isles and their neighbourhood, and temperature had increased except over Russia and Austria-Hungary.

Depressions of no great depth have been prevalent over the Mediterranean—first over its northern shores, but subsequently off the extreme south of Italy and the eastern coast of Sicily, thus causing a continuance of cold North-Easterly and Northerly winds over the south of France, Switzerland, and the north of Italy.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
February 11, 1889	York	—	—	—	—	—	—	—	—	—	—	—	13·6	21

III.—DATA from which the SUMMARY on page 37 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	47	26	42·3	31·6	37·0	− 2·0	1	37	7	1·46	+0·64	*	*
	Stornoway	51	26	43·6	33·0	38·3	− 1·1	4	33	7	1·59	+0·61	8·5	13
	Wick	50	23	41·7	30·0	35·9	− 3·0	0	43	7	1·66	+1·16	*	*
	Lairg ℳ	50	18	42·4	29·9	36·2	− 1·2	1	43	7	1·78	+0·98	*	*
	Glencarron ℳ	48	22	42·2	31·3	36·8	− 1·1	1	38	7	6·81†	?	1·0	2
	Fort Augustus ℳ	52	20	44·6	33·3	39·0	+ 0·1	7	33	7	2·14†	?	*	*
1. SCOTLAND, E.	Nairn	56	25	45·6	31·6	38·6	− 0·4	10	39	7	0·91	+0·52	*	*
	Aberdeen	55	26	45·0	32·1	38·6	+ 0·1	8	37	7	0·73	+0·11	20·8	32
	Braemar ℳ	48	24	42·2	32·1	37·2	+ 2·3	1	35	6	0·64	−0·17	14·3‡	22‡
	Ochtertyre ℳ	57	25	48·6	33·0	40·8	+ 2·8	18	36	7	0·83	−0·25	*	*
	Leith	54	27	48·3	34·1	41·2	+ 1·6	18	32	3	0·14	−0·26	*	*
	Marchmont ℳ	50	25	44·9	30·9	37·9	+ 0·8	8	41	6	0·34	−0·29	20·3	31
2. ENGLAND, N.E.	Alnwick Castle	50	27	44·9	35·6	40·3	+ 1·3	8	25	3	0·07	−0·51	*	*
	Durham	54	26	46·2	33·2	39·7	+ 0·5	12	34	3	0·10	−0·35	20·7	31
	Shields	54	25	47·4	32·6	40·0	+ 0·4	15	37	3	0·15	−0·25	*	*
	Scarborough ℳ	53	26	44·4	33·4	38·9	− 0·3	7	32	3	0·19	−0·26	19·7‡	29‡
	York	53	22	47·1	30·9	39·0	− 0·8	14	42	3	0·13	−0·34	18·1	27
	Spurn Head	49	27	42·9	32·9	37·9	− 1·8	3	32	3	0·09	?	*	*
3. ENGLAND, E.	Hillington ℳ	55	6	44·3	26·8	35·6	− 4·0	6	55	3	0·38	−0·10	18·8	28
	Yarmouth	55	16	43·9	27·7	35·8	− 4·9	5	51	3	0·24	−0·26	*	*
	Geldeston	58	14	45·7	29·2	37·5	− 3·4	10	48	4	0·17	−0·24	25·8	38
	Cambridge	58	15	48·1	36·0	42·1	+ 1·5	26	17	2	0·23	−0·17	23·2	34
	Rothamsted	58	9	45·3	28·3	36·8	− 3·1	9	50	3	0·39	−0·19	*	*
	Ingatestone	58	10	46·9	27·3	37·1	− 3·7	14	55	4	0·44	+0·01	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	54	21	48·3	34·6	41·5	+ 1·2	18	31	4	0·08	−0·34	14·5‡	21‡
	Loughborough	55	19	48·0	30·0	39·0	− 1·0	17	46	3	0·12	−0·38	14·1‡	21‡
	Cheadle ℳ	52	20	44·4	30·9	37·7	− 1·6	7	41	5	0·47	−0·24	*	*
	Churchstoke ℳ	55	19	48·5	32·3	40·4	− 0·2	18	39	5	0·25	−0·46	15·3	23
	Hereford ℳ	56	21	49·4	31·8	40·6	− 0·4	21	41	4	0·11	−0·49	*	*
	Cirencester	55	20	47·3	29·1	38·2	− 2·8	15	49	3	0·36	−0·34	20·4	30
	Oxford	54	20	47·7	30·9	39·3	− 1·5	16	43	3	0·44	−0·08	17·7	26
5. ENGLAND, S.	London	58	21	48·4	29·7	39·1	− 2·4	18	48	3	0·82	+0·34	16·5‡	24‡
	Strathfield Turgiss ℳ	56	14	48·2	27·3	37·8	− 3·4	17	56	3	0·38	−0·17	*	*
	Dungeness	55	14	44·6	24·6	34·6	− 7·4	7	63	4	0·65	+0·13	*	*
	Hastings (St. Leonard's)	55	22	46·4	31·6	39·0	− 2·9	12	39	4	0·84	+0·30	18·3	27
	Southampton	56	22	48·8	34·0	41·4	− 0·1	19	33	4	0·75	+0·04	16·9	24
	Hurst Castle	51	24	45·9	34·1	40·0	− 2·5	11	30	3	0·60	−0·05	*	*
	Stowell ℳ	55	23	48·1	33·1	40·6	− 0·5	17	35	5	0·60	?	15·8‡	23‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	?51	29	?46·3	35·8	?41·1	+?1·2	?12	?25	7	4·15†	+1·99	*	*
	Glasgow	51	28	45·9	35·1	40·5	+ 1·0	11	27	7	1·06	+0·12	13·3	20
	Ardrossan	51	30	47·3	37·1	42·2	+ 2·5	22	14	7	0·97	+0·10	*	*
	Glenlee S	51	23	46·6	32·3	39·5	+ 1·4	13	38	7	2·22	?	*	*
	Douglas (Isle of Man)	52	25	48·7	36·7	42·7	+ 1·5	27	15	5	1·26	+0·31	16·3	24
7. ENGLAND, N.W.	Newton Reigny (Penrith)	51	24	45·7	32·3	39·0	+ 0·5	10	37	5	0·90	+0·12	17·2	26
	Barrow-in-Furness	47	26	45·1	35·0	40·1	− 1·2	9	27	6	1·18	+0·48	*	*
	Stonyhurst	49	25	44·8	34·0	39·4	− 0·3	8	30	7	1·75	+0·79	19·9	30
	Blackpool ℳ	48	33	44·9	36·3	40·6	− 0·7	8	22	7	0·65	+0·02	15·5	23
	Manchester	54	23	46·0	33·9	40·0	− 0·3	11	32	6	1·01	+0·41	*	*
	Liverpool Obsy (Bidston)	52	24	47·3	34·7	41·0	− 0·3	15	29	6	0·38	−0·07	*	*
	Llandudno ℳ	53	34	48·8	38·9	43·9	+ 1·4	26	9	5	0·30	−0·30	15·8	23
	Holyhead	52	35	47·7	39·9	43·8	− 0·8	21	6	7	0·83	+0·11	*	*
8. ENGLAND, S.W.	Llandovery	53	20	48·0	33·6	40·8	− 1·4	17	34	7	1·87	+0·72	*	*
	Pembroke	50	31	47·4	39·4	43·4	− 0·2	21	7	7	1·32	+0·52	16·2	24
	Arlington (N. Devon)	49	29	46·1	33·9	40·0	− 1·7	11	31	7	2·93	+1·67	*	*
	Cullompton ℳ	54	27	49·3	34·0	41·7	− 0·5	20	33	5	1·00	+0·16	17·8	26
	Falmouth	53	30	49·0	38·9	44·0	0·0	27	9	6	1·61	+0·47	17·9	26
	Plymouth	54	30	49·7	36·2	43·0	− 0·5	31	16	7	1·30	+0·46	16·4	24
	Prawle Point	51	28	48·3	35·9	42·1	− 1·2	23	17	6	1·28	*	*	*
9. IRELAND, N.	Malin Head	51	34	46·7	38·0	42·4	+ 1·9	20	11	7	0·97	?	*	*
	Londonderry	52	29	49·1	36·6	42·9	+ 2·3	29	15	5	0·93	+0·21	*	*
	Mullaghmore	52	32	49·4	38·6	44·0	+ 2·8	28	10	6	1·07	+0·18	*	*
	Belmullet	51	34	49·7	40·3	45·0	+ 2·5	28	5	7	1·16	*	*	*
	Markree Castle	54	19	50·0	35·7	41·9	+ 1·5	22	35	6	1·04	+0·35	19·9	30
	Brookeborough	53	14	48·5	32·8	40·7	+ 0·9	18	37	5	0·96	?	*	*
	Armagh	54	21	48·6	34·1	41·4	+ 0·4	18	33	4	0·40	−0·25	19·8	30
	Donaghadee	53	34	47·7	37·6	42·7	+ 1·5	23	12	6	0·58	−0·11	*	*
	Edgeworthstown	53	20	46·1	32·9	39·5	− 0·5	11	35	6	0·82	0·00	*	*
10. IRELAND, S.	Dublin	55	24	49·8	36·8	43·3	+ 1·2	31	15	4	0·40	−0·19	24·9	37
	Parsonstown	54	22	50·7	35·3	43·0	+ 2·0	35	19	6	0·69	+0·09	22·2	33
	Kilkenny	55	24	50·9	35·6	43·3	+ 2·1	36	18	5	0·70	−0·04	*	*
	Waterford	55	27	51·6	35·4	43·5	− 0·3	38	18	5	1·01	+0·04	*	*
	Roche's Point	56	32	51·7	41·3	46·5	+ 2·3	34	2	5	0·68	−0·52	*	*
	Valencia	54	35	52·1	42·7	47·4	+ 2·0	38	0	7	1·81	+0·50	14·2	21
	Killarney	57	23	52·2	36·7	44·5	+ 0·8	40	15	6	1·74	?	*	*
	Foynes	55	36	51·6	42·6	47·1	+ 5·1	35	0	6	1·48	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	52	35	50·1	42·1	46·1	+ 0·1	29	0	7	0·74	−0·01	*	*
	Jersey	51	33	48·4	37·6	43·0	+ 0·5	25	12	6	1·17	+0·49	16·9	24

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked S with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, and Laudale being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the first and second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

(OFFICIAL COPY.)

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VI. No. 8.] *Third Series.* WEEK ENDING MONDAY, 25TH FEBRUARY, 1889. [*Price* 6*d*. [*Annual subscription, post paid*, £1 10*s*. 0*d*.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 48.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	52	23	42·2	33·4	37·7	1 below.	1	− 8	30	+ 2	46	− 5	275	+20
	1. SCOTLAND, EAST	52	22	42·9	33·1	38·0	0 (average).	3	−10	32	+ 1	61	3	300	− 7
	2. ENGLAND, N.E.	50	29	42·2	34·3	38·3	1 below.*	1	−12	27	− 1	42	−24	281	+ 2
	3. ENGLAND, EAST	52	27	41·7	32·9	37·3	3 below.	0	−16	33	+ 6	32	−48	373	+79
	4. MIDLAND COUNTIES	52	26	42·7	33·5	38·1	3 below.	2	−13	30	+ 3	47	−45	342	+53
	5. ENGLAND, SOUTH	56	28	42·6	34·5	38·5	4 below.	2	−18	26	+ 7	50	−50	280	+54
Principal Grazing, &c. Districts	6. SCOTLAND, WEST	43	26	44·1	33·2	40·2	0 (average).	6	− 8	23	− 1	80	+ 2	203	−25
	7. ENGLAND, N.W.	50	27	42·4	35·1	38·7	2 below.	1	−12	24	+ 3	51	−24	208	−22
	8. ENGLAND, S.W.	53	23	44·8	35·3	40·1	3 below.	8	−14	26	+14	102	−44	171	+37
	9. IRELAND, NORTH	51	24	46·2	36·4	41·4	0 (average).	12	− 6	23	+ 4	113	+ 6	171	−28
	10. IRELAND, SOUTH	53	23	47·5	37·7	42·6	0 (average).	22	− 3	12	0	172	+ 6	116	−20
	— CHANNEL ISLANDS	51	33	45·3	40·4	42·9	1 below.	13	−13	4	0	177	+ 1	36	−39

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 48.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	5	7	1 less.	44	+5	9·7	+1·6	19	29	55	−19	12	− 4
	1. SCOTLAND, EAST	4	3	3 less.	33	+5	3·1	−2·2	12	17	109	− 9	24	− 2
	2. ENGLAND, N.E.	5	2	3 less.	29	0	2·0	−1·7	11	23	101	+23	21	+ 6
	3. ENGLAND, EAST	5	3	2 less.	29	−1	2·4	−1·2	10	15	93	− 4	19	− 1
	4. MIDLAND COUNTIES	3	1	5 less.	27	−3	2·7	−2·0	13	17	87	+ 1	18	+ 1
	5. ENGLAND, SOUTH	4	3	3 less.	29	−1	3·1	−1·8	14	20	87	+ 1	17	0
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	4	4	5 less.	36	+1	7·8	−2·1	21	29	105	+28	22	+ 6
	7. ENGLAND, N.W.	2	1	6 less.	30	−1	3·9	−1·9	18	26	97	+19	20	+ 4
	8. ENGLAND, S.W.	2	2	8 less.	29	−4	5·4	−2·7	23	33	119	+17	24	+ 4
	9. IRELAND, NORTH	5	4	4 less.	42	+5	6·2	+0·2	14	20	86	−13	18	− 2
	10. IRELAND, SOUTH	4	4	5 less.	37	+1	6·8	−0·7	16	23	109	− 4	22	− 1
	— CHANNEL ISLANDS	5	1	6 less.	38	+1	4·3	−1·9	19	26	132	−12	26	− 2

General Remarks.

Weather has been cloudy and unsettled very generally, with occasional slight falls of snow over the greater part of the Kingdom, and some sleet or rain in the extreme west and north. In some localities, however, a few intervals of bright sunshine were experienced.

Temperature has ranged from 1° to 4° below the mean over England, but in Ireland and also in most parts of Scotland it has equalled the normal value for the time of year. The highest of the maxima, which were recorded either on the 19th or 20th, ranged from 48° in "Scotland, W." to 56° in "England, S." The lowest of the minima were registered in most places on the 24th, and varied from 22° to 26° in Scotland, from 23° to 24° in Ireland, and from 25° to 29° over England. In the "Channel Islands" the lowest reading was 33°.

Rainfall has been less than the mean in all districts. Over the greater part of England the fall has been very slight.

Bright sunshine has been in excess of that recorded last week in the north and west of Scotland, but in nearly all other districts it has been less prevalent. The percentage of the possible amount of duration ranged from 15 in "England, E." and 17 in "Scotland, E." and the "Midland Counties" to 36 in "England, S.W."

Barometer and Wind.—The changes of pressure over our Islands during this period have been somewhat gradual, and no depressions of importance have appeared in our immediate neighbourhood. During the earlier part of the time the barometer continued highest in the south-west and lowest in the north-east and east, and the winds moderate from between North and North-West. As the week progressed, however, the south-western high pressure area gave way and a new one extended from Russia to Scandinavia, while a depression was shown over Germany. Gradients for North-Easterly winds were consequently established over our Islands, but towards the end of the period another anticyclonic system appeared off our western coasts and the distribution of pressure was becoming rather complex.

* The corresponding value for the week ending February 11th, should read "5 below."

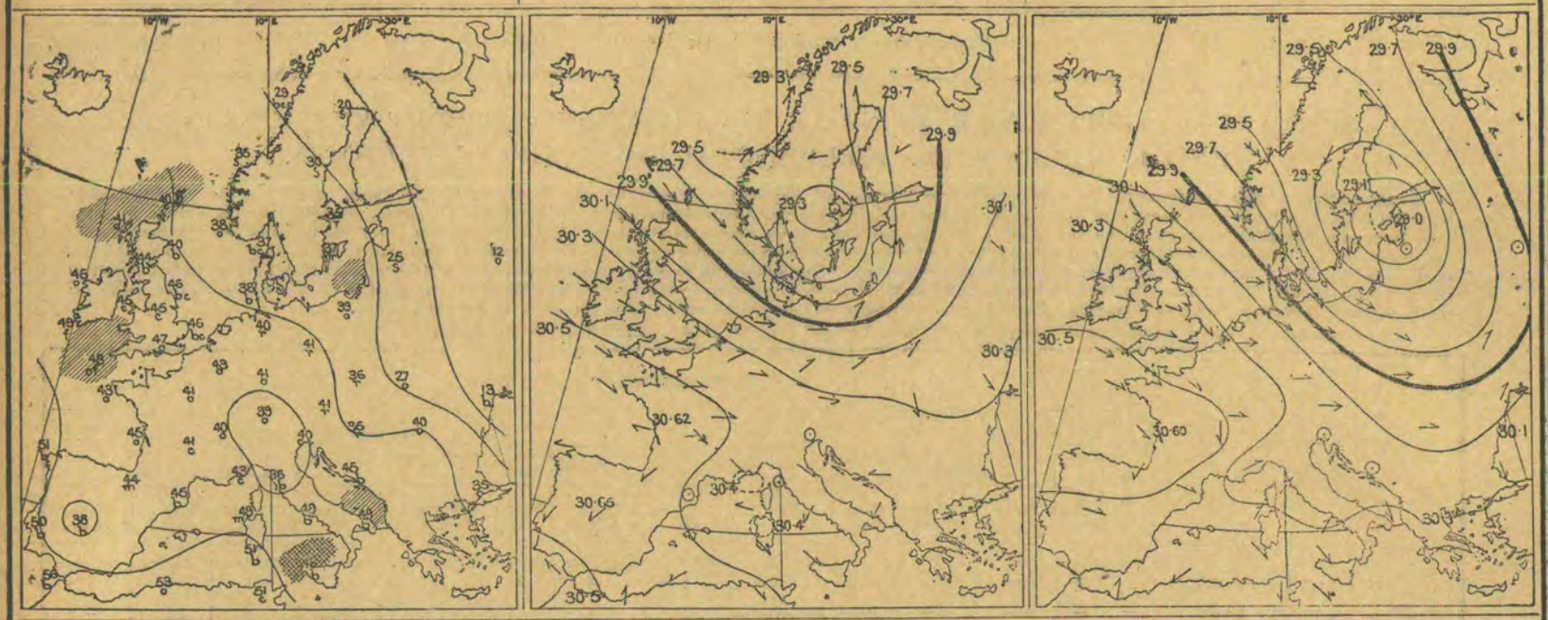
A 57722. 350.—2/89. Wt. 37. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 19th February.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine and bright over Southern Europe, cloudy or overcast elsewhere, with rain at many of the Austrian, German, and Baltic stations; snow in Finland and over the Gulf of Bothnia, as well as in some parts of Norway. Some rain fell at some of the British and many of the Continental stations later (snow and sleet in places) but fair as a whole so far as our Islands were concerned.

Temperature risen rapidly over Northern Europe, changing little and irregularly elsewhere; not rising much above 50° in any part of our Islands during the day, but said to have reached 71° at Perpignan, and 68° at Lisbon; 55° was recorded at Biarritz, 52° at Cambridge and Valencia, 51° in London, and 50° at Mullaghmore, falling somewhat in most places later, but remaining well above the freezing point (in the shade) over our Islands all night.

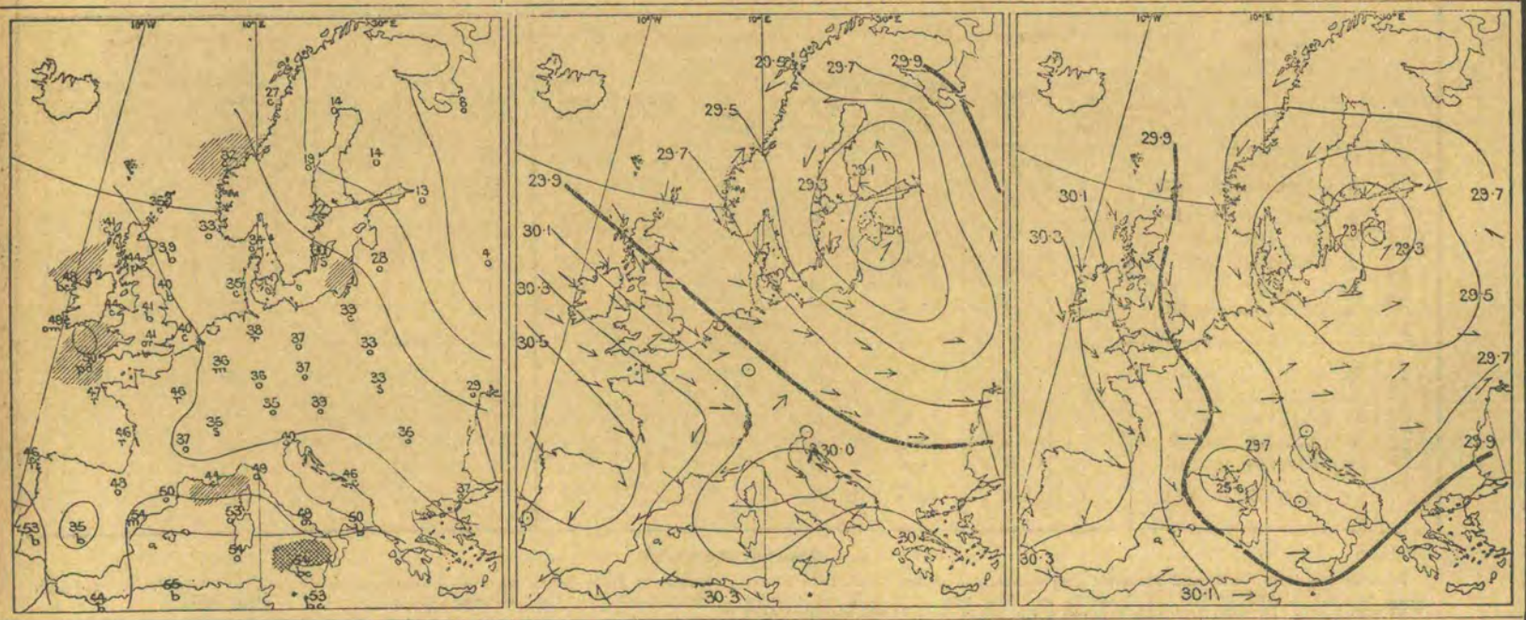
Wind North-Westerly to Westerly, strong over Scotland and the North Sea, South-Westerly to Southerly at the Baltic stations, South-Easterly over Finland and the north of Sweden, South-Westerly to Westerly in Norway, Westerly over Central and variable over Southern Europe, but mainly North-Easterly and Easterly over the Spanish peninsula. Westerly winds subsequently increasing greatly in force over Central Europe, and strong Northerly (North-East to North-West) winds setting in over Sweden. The North-Westerly wind in Scotland dying down.

Barometer highest, 30·4 ins. to more than 30·6 ins. over France, Spain, and the Bay of Biscay, and as high as 30·1 ins. to 30·3 ins. over Southern Russia; lowest, 29·3 ins. and less, in depression over Norway and Sweden; gradients somewhat steep over the North Sea, North Germany, and the Baltic. Depression over Sweden subsequently moving south-eastwards to the Baltic Provinces of Russia, and growing deeper; lowest readings at 6 p.m. 29·0 ins. and less.

Wednesday, 20th February.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather less fair than on the 19th, except on the southern shores of the Mediterranean; sky very cloudy, or overcast, rain at several of the western and snow at several of the north-eastern stations, but the falls slight, and alternating with bursts of clear sky over Russia.

Temperature risen over Southern and South-Eastern Europe, fallen elsewhere; morning readings exceeding 40° over the British Islands and France, and above the freezing point at all but the Russian and Scandinavian stations. Still low over Eastern and Northern Europe, but not below zero (Faht.) anywhere. No material change later.

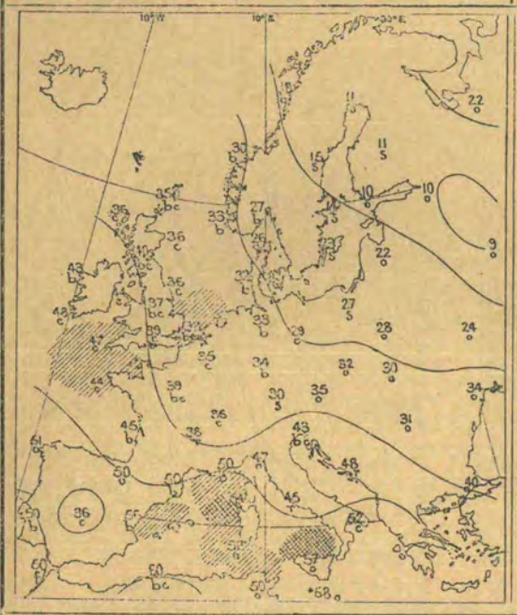
Wind moderate to fresh from North-West over the British Islands and North Sea, Westerly over France and Central Europe, South-Easterly to Easterly over Finland and Lapland, Northerly in Sweden. Cyclonic circulation of light to moderate winds prevailing over the Mediterranean and Adriatic. Subsequently becoming more Northerly over the United Kingdom and North Sea, and increasing in strength over the Mediterranean.

Barometer still highest, 30·3 ins. to 30·5 ins., over Western and South-Western Europe, lowest over the Baltic and the northern part of the Mediterranean, where depressions of moderate, but increasing, intensity were indicated. The mercury beginning to rise in the north-west later, falling elsewhere, and the change subsequently spreading south-eastwards slowly.

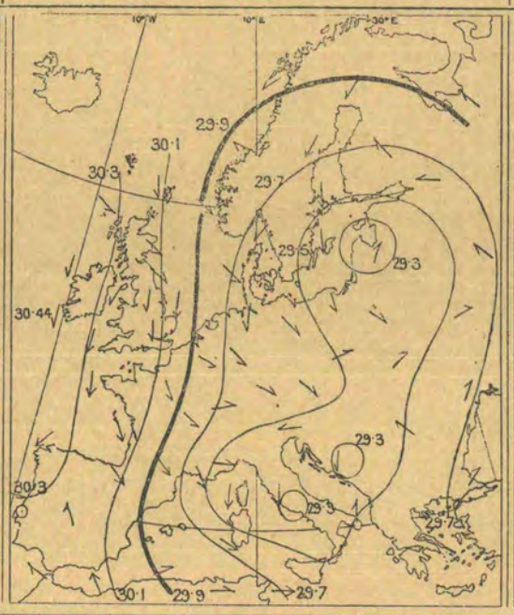
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 21st February.

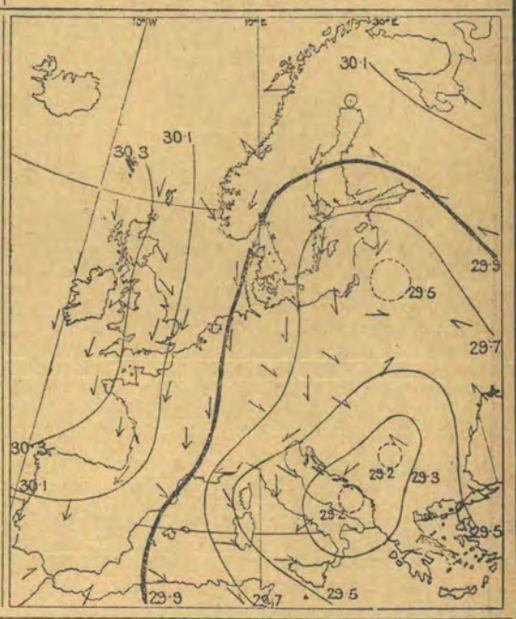
Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



6 p.m.



Weather fair as a whole, but cold showers reported in a few places and slight snow in London, and at some German ports; rain at Turin. Continuing fair over the greater part of the United Kingdom during the day, while some showers of snow occurred at most of the Continental stations.

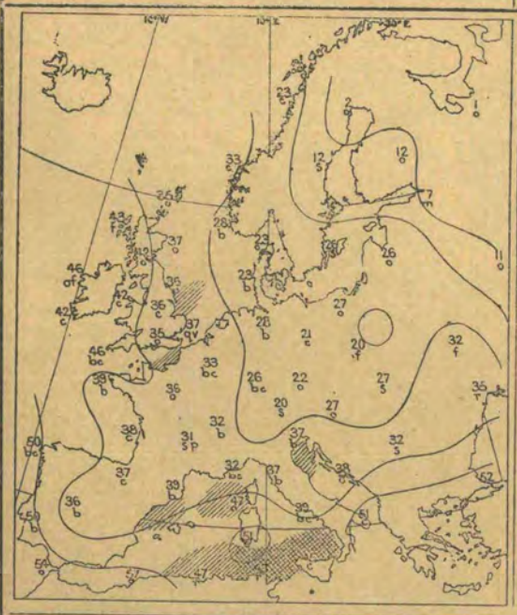
Temperature showing a slight decrease, except over Northern and Central Russia, where some increase was recorded. Decidedly above zero in all countries, and above the freezing point in the shade, except over Eastern Germany, Poland, Russia, Sweden, and the north of Norway. Very little change later.

Wind Northerly over the Baltic, the North Sea, British Islands, and France; North-Westerly to Westerly over Central Europe. South-Westerly (very light) over Western Russia, and Easterly over Finland. Strong North-Westerly winds over the Mediterranean. No important change later.

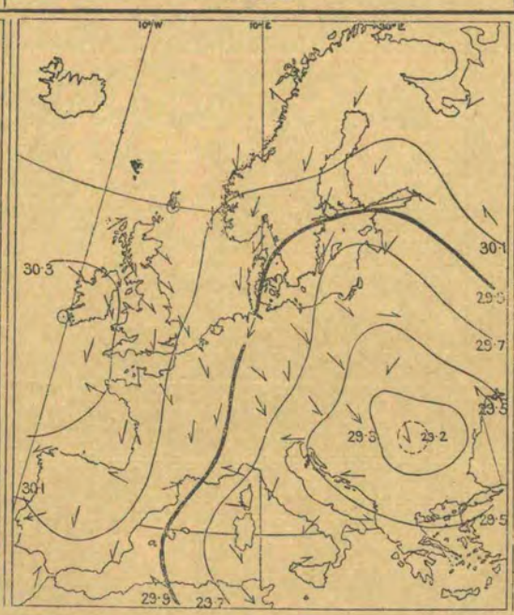
Barometer (having risen over our western and northern districts) highest off the western coasts of our Islands and France, lowest over the Baltic provinces, the north of Italy, and Dalmatia. Gradients moderate, and favourable for northerly winds over the whole of Western Europe. Depressions mentioned above moving eastwards later, and that over Russia beginning to fill up very decidedly.

Friday, 22nd February.

Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



6 p.m.

Weather clear and bright on all the northern shores of the Mediterranean, as well as in some parts of our Islands, France, and on the eastern shores of the North Sea; cloudy or overcast elsewhere, with snow at several of the Swedish and German stations, and rain in Algeria. Rainfall in Algeria very considerable later, and much snow falling on the Puy de Dôme. Snow over Central and Northern Europe not heavy.

Temperature falling generally, but none of the morning readings were below zero Fahr. Highest values (59° to 54°) found over the southern parts of the Mediterranean, Portugal, and the west of Spain; lowest (1° to 12°) over Finland. Readings all below the freezing point over Russia and Germany, but not over the more western countries. No important alteration later.

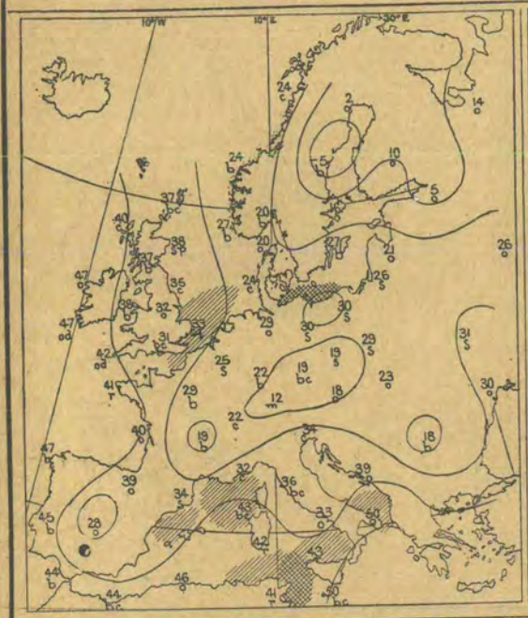
Wind Northerly (North-East to North-West) over nearly the whole of Europe, and light or moderate in force. Cyclonic circulations found round some disturbances over Hungary and the Mediterranean, but not of any great force. Temporary backing to the Westward and South-Westward observed in Scotland, but Northerly breezes subsequently becoming general throughout our Islands.

Barometer rising generally. High, 30·3 ins. and more, over Ireland, and 30·2 ins. and more over Lapland and the extreme north of Russia; low, 29·2 ins. and less, in a depression over Hungary, and rather below 29·6 ins. over Italy, Sardinia, and Sicily. The Mediterranean depression growing deeper later; that over Hungary moving northwards.

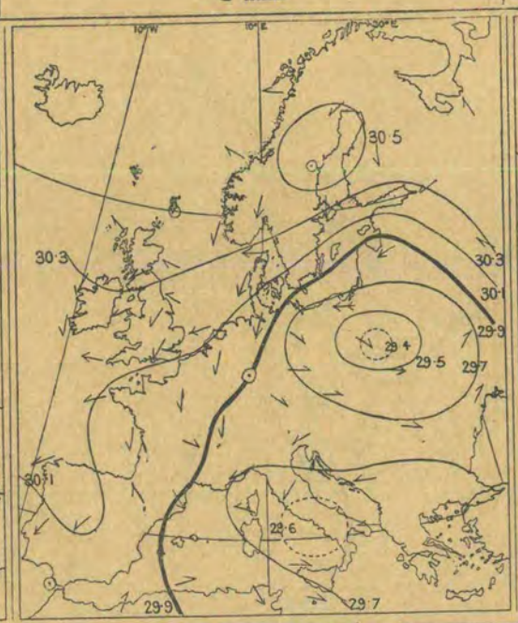
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 23rd February.

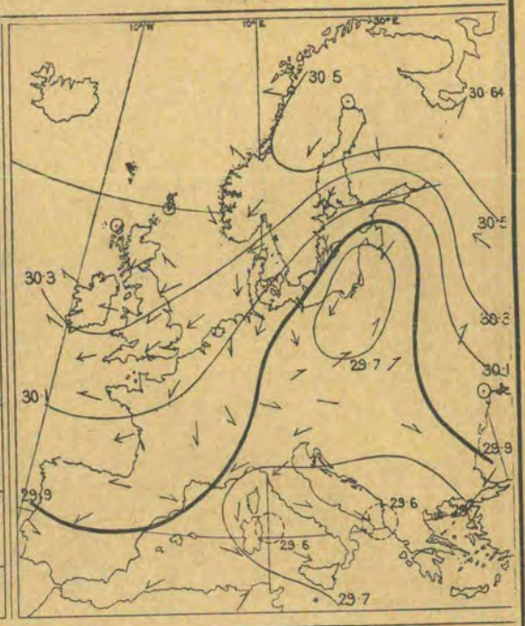
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather fine in Scandinavia and the north of Scotland, as well as in Southern Austria, the east and south of France, and the southern parts of the Iberian peninsula. More or less cloudy elsewhere, with snow in Germany, Poland, and the east of Great Britain, and drizzling rain in Ireland and the south-west of England. Snow falling later in many parts of France.

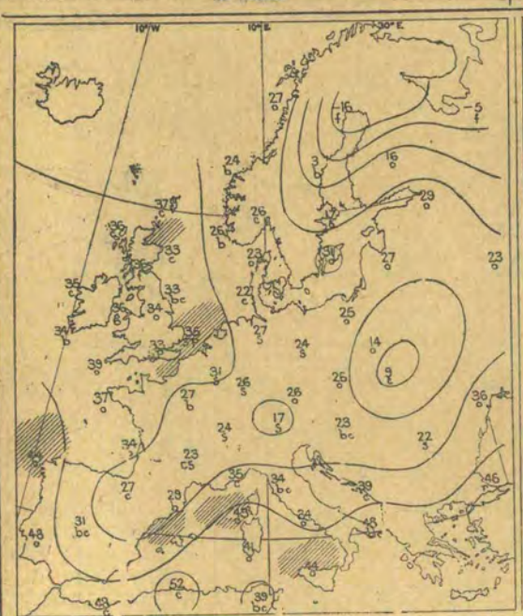
Temperature lowest over the northern parts of Sweden and Finland (Uleaborg – 8° Faht., Hernösand – 5° Faht.); considerably below the freezing point over the whole of Northern and Central Europe; slightly below 32° in the south-east of England. Above 45° over the west and south of Ireland, the coasts of Spain, and the southern parts of the Mediterranean, highest reading being 50° at Brindisi and Malta. Maximum readings below 40° at many of the English stations.

Wind South-Easterly in the north and west of Scotland, but North-Easterly or Northerly in nearly all other parts of Western Europe; strong to a gale in force over the Baltic. Strong Westerly winds reported over Poland and Western Russia, and light South-Easterly breezes over Central and Northern Russia. Subsequently veering to the South-Eastward at most of the Irish stations.

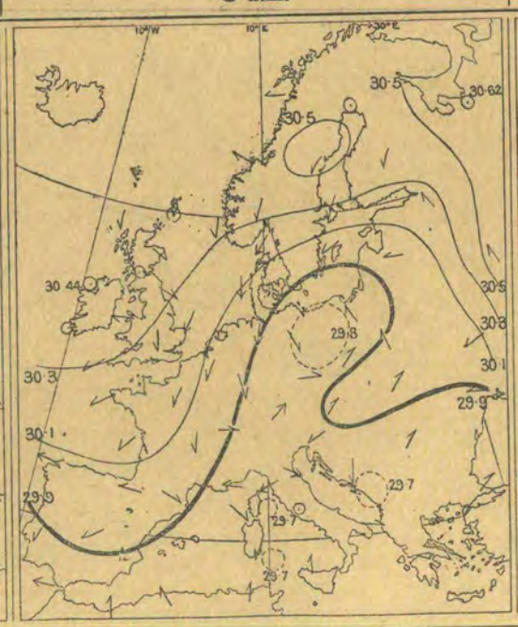
Barometer highest, 30·5 ins. and upwards, over Sweden; high, 30·3 ins. and upwards, over the whole of Northern Europe. Lowest, 29·4 ins. and less, in a well defined and rather deep depression which had advanced from Transylvania to Poland; low, 29·6 ins. and less, in a large shallow disturbance lying over Southern Italy. Polish depression subsequently moving slowly north-westwards and becoming shallower.

Sunday, 24th February.

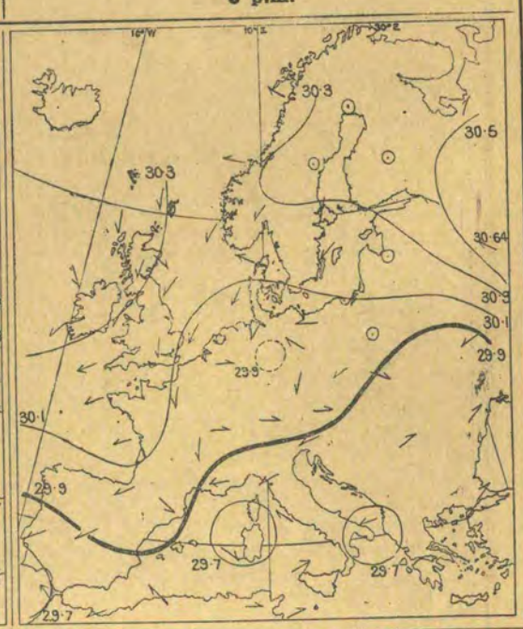
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather fine in Scandinavia and the north of our Islands, as well as over the greater part of Southern Europe. Cloudy elsewhere, with snow over England, Germany, and the east of France, as well as at some of the Russian stations. Rain falling at Constantinople. Some improvement taking place later in Germany, but snow showers falling over England nearly all day.

Temperature very low over Lapland and Northern Russia (Haparanda – 16° Faht.); several degrees below the freezing point over the whole of Northern and Central Europe; slightly below 32° over the south of France and the central parts of Scotland, Ireland, and France. Above 45° on the southern coast of the Iberian Peninsula, and also on the southern shores of the Mediterranean, highest reading being 55° at Sfax. Daily maxima below 40° at many of the English stations.

Wind North-Easterly or Northerly over the greater part of Western and Northern Europe; fresh or strong in force over Denmark, the south of Scandinavia, and the east of England. Cyclonic circulation of light winds shown over Germany: light South-Easterly breezes reported in Russia, and also in Algeria. Subsequently becoming light and variable in the extreme north and north-west of our Islands.

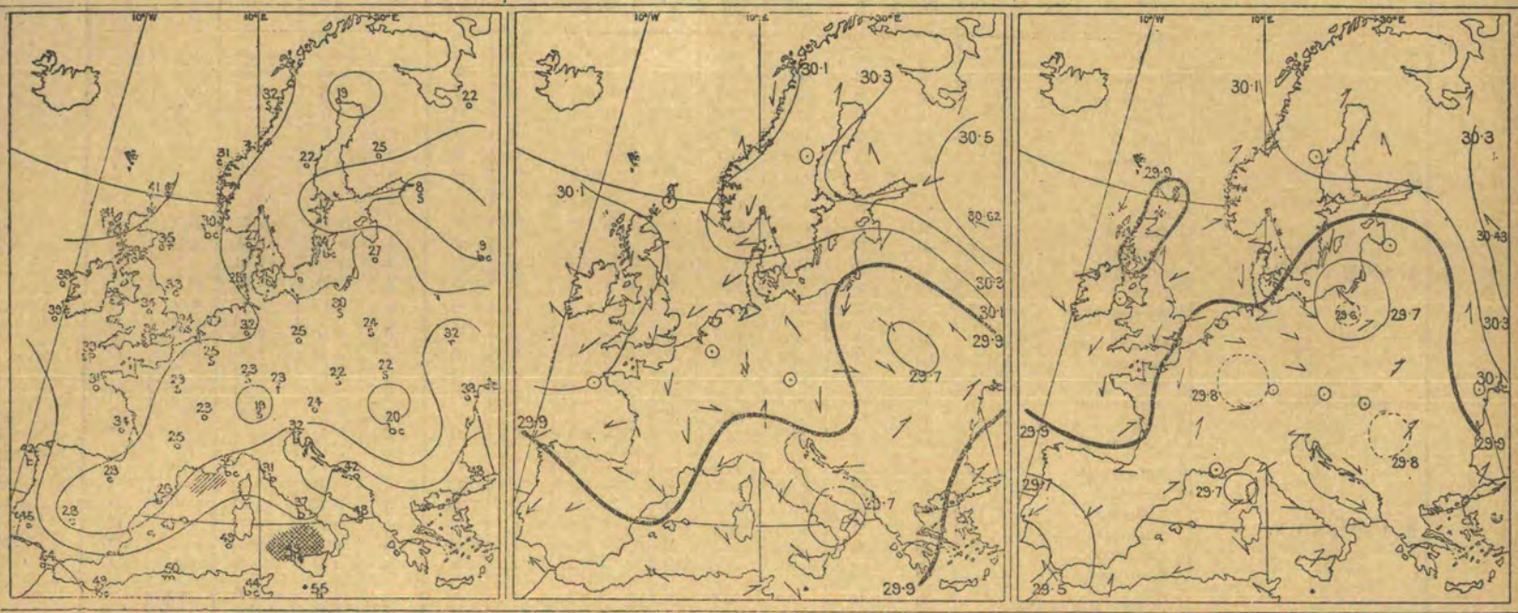
Barometer highest (30·6 ins. and upwards) over Northern and Central Russia; high, 30·5 ins. and upwards, over the Gulf of Bothnia, and 30·4 ins. and upwards over Ireland. Lowest, 29·8 ins. and less, in a depression which was gradually filling up over Eastern Germany, and also in a large and complex area lying over the Mediterranean and the south of Spain. German depression continuing to fill up during day, but two definite low pressure systems appearing over Mediterranean.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 25th February.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine in the western part of the United Kingdom, as well as in Italy and the south of Austria. Cloudy or overcast elsewhere, with rain in Scotland and snow over the Baltic, the western parts of Russia and Germany, Belgium, the east of France, and the east and south of England. Heavy rain falling in Spain later, the largest amounts being 0·87 in. at San Fernando and 0·75 in. at Madrid.

Temperature lowest over Central Russia (St. Petersburg 8°, Moscow 9°); considerably below the freezing point over the whole of Northern and Central Europe, and slightly below over Central Spain and the south of France. Above 45° over the central and southern parts of the Mediterranean, and also on the south coast of Spain, highest reading of all being 55° at Malta. Daily maxima below 40° in many parts of Great Britain.

Wind chiefly Northerly over our Islands and the north of France, and North-Easterly or Easterly over the Baltic, Denmark, Spain, and the south of France. Cyclonic circulation of light winds reported over the west and south of Russia, and light Southerly breezes general over the northern parts of Russia and Sweden, as well as at the Algerian stations. Wind over the northern parts of our Islands subsequently becoming very variable.

Barometer highest, 30·6 ins. and upwards, over Central Russia; high, 30·2 ins. and upwards, over Ireland. Lowest, 29·7 ins. and less, in a depression lying over Western Russia, in another lying over the southern part of the Adriatic, and in a third lying off the south-west of Spain. Shallow depression, with readings below 29·95 ins., lying over Westphalia. Barometer falling steadily in our Islands, and shallow low pressure system appearing over Scotland later in day.

GENERAL NOTES.

During the earlier half of this week pressure remained highest over Western Europe and the adjacent parts of the Atlantic, while depressions of no great intensity appeared over Russia and the central and south-eastern countries. North-Westerly to Northerly winds were consequently dominant, and the weather was cold, with slight showers of sleet and snow in several places. After the 22nd a change occurred, and on the two following days pressure was highest over Northern, lowest over Central and Southern Europe. The wind was, therefore, more Easterly, and temperature became still lower, but no gales were reported. At the close of the week the distribution of pressure had become exceedingly irregular and complex, the wind was variable, the weather unsettled, and snow showers fell in many places.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟹ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

III.—DATA from which the SUMMARY on page 43 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	43	31	40·4	33·6	37·0	− 2·0	0	35	3	0·62	−0·18	*	*
	Stornoway	49	32	44·1	34·7	39·4	− 0·2	6	27	6	0·67	−0·28	23·6	35
	Wick	44	27	41·3	33·1	37·2	− 1·8	0	34	5	0·56	+0·06	*	*
	Lairg S	43	23	41·0	31·1	35·1	− 1·3	0	41	6	0·75	−0·03	*	*
	Glencarron S	45	31	41·9	33·7	37·8	− 0·1	0	29	5	6·98†	?	15·0	22
	Fort Augustus S	52	29	44·2	34·1	39·2	+ 0·3	6	30	6	0·38†	?	*	*
1. SCOTLAND, E.	Nairn	47	26	42·0	33·7	38·3	− 1·0	3	30	5	0·50	+0·10	*	*
	Aberdeen	45	28	41·0	34·6	37·8	− 1·0	0	29	5	0·58	+0·07	13·6	20
	Braemar S	45	22	39·8	31·1	35·5	+ 0·3	0	46	3	0·17	−0·61	5·3‡	8‡
	Ochtertyre S	51	25	45·6	31·9	38·8	+ 0·8	10	38	3	0·16	−0·81	*	*
	Leith	52	29	45·1	34·7	39·9	− 0·1	9	28	2	0·04	−0·34	*	*
	Marchmont S	50	27	42·7	32·7	37·7	0·0	2	33	5	0·19	−0·41	16·0	23
2. ENGLAND, N.E.	Alnwick Castle	47	30	40·6	33·3	37·0	− 2·0	0	35	5	0·15	−0·43	*	*
	Durham	50	29	42·2	32·8	37·5	− 1·6	1	32	5	0·12	−0·33	16·9	24
	Shields	49	31	42·9	35·4	39·2	− 0·6	3	24	5	0·09	−0·31	*	*
	Scarborough M	56	32	44·8	35·4	40·1	+ 0·4	8	25	6	0·41	−0·03	16·6‡	23‡
	York	50	31	42·4	34·7	38·6	− 1·2	1	26	3	0·07	−0·38	15·7	22
	Spurn Head	44	31	40·1	34·4	37·3	− 2·5	0	33	6	0·30	?	*	*
3. ENGLAND, E.	Hillington M	48	29	41·5	33·0	37·2	− 2·8	0	34	6	0·41	−0·06	9·0	13
	Yarmouth	49	29	40·1	33·3	36·7	− 4·3	0	37	6	0·36	−0·14	*	*
	Geldeston	50	29	41·5	33·0	37·3	− 3·7	0	33	6	0·45	+0·04	9·9	14
	Cambridge	52	27	43·4	32·0	37·7	− 3·1	4	36	6	0·23	−0·17	12·0	17
	Rothamsted	50	29	41·2	32·5	36·9	− 3·2	0	36	5	0·12	−0·45	*	*
	Ingatestone	50	28	42·4	33·6	38·0	− 3·0	1	30	3	0·03	−0·36	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	49	29	43·6	32·6	38·1	− 2·7	4	34	3	0·20	−0·21	9·2‡	13‡
	Loughborough	48	31	42·6	35·1	38·9	− 1·4	2	25	6	0·12	−0·37	5·9‡	8‡
	Cheadle M	48	28	40·7	31·1	35·9	− 3·9	0	43	4	0·18	−0·51	*	*
	Churchstoke M	49	26	42·9	32·6	37·8	− 3·0	3	34	0	—	−0·68	12·8	18
	Hereford M	52	30	44·0	35·1	39·6	− 1·6	6	26	1	0·01	−0·59	*	*
	Cirencester	50	29	42·3	33·6	38·0	− 2·2	1	30	3	0·10	−0·57	19·6	27
	Oxford	50	29	42·7	34·3	38·5	− 2·5	2	27	4	0·11	−0·38	15·0	21
5. ENGLAND, S.	London	51	30	42·4	34·0	38·2	− 3·7	1	28	5	0·15	−0·31	8·1‡	11‡
	Strathfield Turgiss M	54	29	43·4	34·4	38·9	− 2·8	4	28	5	0·14	−0·38	*	*
	Dungeness	48	28	40·7	33·7	37·2	− 5·3	0	34	6	0·41	−0·10	*	*
	Hastings (St. Leonard's)	50	28	41·1	34·5	37·8	− 4·3	0	29	6	0·68	+0·18	17·0	24
	Southampton	56	30	45·2	34·8	40·0	− 1·9	9	27	2	0·17	−0·52	19·9	28
	Hurst Castle	51	30	43·4	35·3	39·4	− 3·4	4	25	2	0·19	−0·41	*	*
	Stowell M	50	30	41·7	34·6	38·2	− 3·3	0	27	2	0·30	?	11·1‡	15‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	47	32	44·2	38·7	41·5	+ 1·5	6	13	3	0·31†	−1·80	*	*
	Glasgow	48	29	43·4	35·4	39·4	− 0·3	4	24	3	0·36	−0·49	14·2	20
	Ardrossan	48	32	43·9	37·0	40·5	+ 0·7	5	19	4	0·36	−0·45	*	*
	Glenlee S	48	26	44·2	33·1	38·7	+ 0·4	6	33	4	0·47	?	*	*
	Douglas (Isle of Man)	48	32	44·9	36·8	40·9	− 0·6	8	21	4	0·43	−0·45	27·1	38
7. ENGLAND, N.W.	Newton Reigny (Penrith)	49	27	40·9	31·9	36·4	− 2·4	0	39	1	0·01	−0·71	13·6	19
	Barrow-in-Furness	47	33	43·3	36·1	39·7	− 1·8	4	22	2	0·08	−0·60	*	*
	Stonyhurst	46	30	41·7	33·1	37·2	− 2·6	0	34	3	0·09	−0·84	17·6	25
	Blackpool M	45	33	42·8	36·2	39·5	− 2·0	2	21	0	—	−0·60	23·5	33
	Manchester	47	28	41·7	33·4	37·6	− 3·1	0	31	2	0·07	−0·51	*	*
	Liverpool Obsy (Bidston)	46	31	42·3	35·9	39·1	− 2·4	1	22	2	0·12	−0·32	*	*
	Llandudno M													
	Holyhead	50	34	44·1	38·9	41·5	− 1·5	6	12	1	0·08	−0·58	*	*
8. ENGLAND, S.W.	Llandovery	50	23	44·9	29·4	37·2	− 5·1	8	46	3	0·14	−0·96	*	*
	Pembroke	49	30	44·4	38·6	41·5	− 2·5	7	14	3	0·34	−0·41	34·1	47
	Arlington (N. Devon)	49	25	42·3	34·3	38·3	− 3·5	1	27	4	0·43	−0·75	*	*
	Cullompton M	53	28	44·8	35·8	40·3	− 1·9	8	24	3	0·12	−0·69	19·9	28
	Falmouth	51	28	45·6	37·1	41·4	− 2·6	10	20	1	0·12	−0·89	25·9	35
	Plymouth	53	29	45·7	37·0	41·4	− 2·6	10	20	1	0·01	−0·78	23·0	32
	Prawle Point	53	27	45·9	34·9	40·4	− 3·1	11	28	2	0·09	?	*	*
9. IRELAND, N.	Malin Head	47	34	44·3	39·3	41·8	+ 1·1	6	11	5	0·53	?	*	*
	Londonderry	51	31	45·9	36·4	41·2	+ 0·5	11	23	5	0·49	−0·20	*	*
	Mullaghmore	50	29	46·7	39·0	42·9	+ 1·7	19	8	7	0·43	−0·40	*	*
	Belmullet	51	33	47·6	40·1	43·9	+ 0·4	21	5	6	0·72	?	*	*
	Markree Castle	50	24	46·2	34·1	40·2	− 0·3	12	31	6	0·39	−0·27	13·5	19
	Brookeborough	50	26	46·1	32·6	39·4	− 0·4	11	36	5	0·24	?	*	*
	Armagh	51	29	47·3	35·0	41·2	− 0·1	15	29	3	0·13	−0·49	14·0	20
	Donaghadee	49	33	45·6	38·4	42·0	+ 0·5	10	10	5	0·40	−0·22	*	*
	Edgeworthstown	50	27	46·1	33·1	39·6	− 0·5	11	34	5	0·12	−0·68	*	*
10. IRELAND, S.	Dublin	51	33	46·9	37·3	42·1	− 0·2	20	13	4	0·21	−0·37	13·5	19
	Parsonstown	53	26	46·6	34·9	40·8	− 0·5	13	28	3	0·11	−0·47	16·5	23
	Kilkenny	53	29	46·7	36·3	41·5	+ 0·1	13	23	2	0·33	−0·35	*	*
	Waterford	53	29	47·3	37·4	42·4	− 1·6	22	13	4	0·35	−0·52	*	*
	Roche's Point	52	32	47·6	40·4	44·0	− 0·3	21	4	3	0·66	−0·42	*	*
	Valencia	53	32	49·6	41·0	45·3	− 0·1	27	3	5	0·31	−0·92	18·7	26
	Killarney	53	23	48·9	35·8	42·4	− 1·4	29	17	3	0·48	?	*	*
	Foynes	50	30	46·6	38·4	42·5	+ 0·5	19	10	4	0·37	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	51	34	46·0	41·1	43·6	− 2·4	15	3	4	0·09	−0·61	*	*
	Jersey	50	33	44·6	39·6	42·1	− 0·4	11	7	6	0·17	−0·48	18·9	26

Stations marked M are in connection with the Royal Meteorological Society, and those marked S with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, and Laudale being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the first and second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VI. No. 9.] *Third Series.* WEEK ENDING MONDAY, 4TH MARCH, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 54.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
	0. SCOTLAND, NORTH	43	16	37·8	27·4	32·5	6 below.	0	− 9	67	+37	46	−15	342	+ 58
Principal Wheat-producing Districts.	1. SCOTLAND, EAST	43	8	36·9	25·3	31·0	7 below.	0	−14	77	+46	61	−19	377	+ 40
	2. ENGLAND, N.E.	41	11	36·2	27·0	31·5	8 below.	0	−14	74	+46	42	−39	355	+ 52
	3. ENGLAND, EAST	42	14	36·1	25·5	30·7	10 below.	0	−18	79	+51	32	−63	452	+135
	4. MIDLAND COUNTIES	42	19	36·6	26·8	31·6	9 below.	0	−20	73	+45	47	−63	415	+105
	5. ENGLAND, SOUTH	43	20	36·6	28·4	32·4	10 below.	0	−22	67	+46	50	−74	347	+105
	6. SCOTLAND, WEST	41	14	37·3	28·8	32·9	7 below.	0	−14	64	+40	80	−13	237	+ 18
	7. ENGLAND, N.W.	41	17	36·9	28·2	32·4	9 below.	0	−14	67	+46	52 *	−40	275	+ 29
Principal Grazing, &c. Districts.	8. ENGLAND, S.W.	42	22	37·6	29·2	33·3	10 below.	0	−23	61	+43	102	−72	232	+ 83
	9. IRELAND, NORTH	44	21	39·2	30·3	34·6	7 below.	0	−19	52	+32	113	−16	223	+ 8
	10. IRELAND, SOUTH	50	21	42·6	30·8	36·5	7 below.	2	−24	38	+25	174	−23	154	+ 11
	— CHANNEL ISLANDS	50	32	42·5	34·6	38·5	6 below.	1	−26	26	+21	178	−26	62	− 7

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 54.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
	0. SCOTLAND, NORTH	4	4	2 less.	48	+4	10·1	+1·4	33	45	88	− 5	17	− 1
Principal Wheat-producing Districts.	1. SCOTLAND, EAST	5	4	2 less.	38	+6	3·5	−2·4	19	26	128	− 8	24	− 2
	2. ENGLAND, N.E.	5	5	1 more.	34	+1	2·5	−1·7	14	19	115	+23	21	+ 5
	3. ENGLAND, EAST	5	1	3 less.	34	−1	2·5	−1·6	22	30	115	−14	20	− 1
	4. MIDLAND COUNTIES	3	1	4 less.	30	−4	2·8	−2·4	15	20	102	− 5	18	− 1
	5. ENGLAND, SOUTH	3	2	3 less.	32	−2	3·3	−2·1	10	14	97	−12	17	− 2
	6. SCOTLAND, WEST	2	1	7 less.	38	−2	7·9	−2·7	12	17	117	+23	21	+ 4
	7. ENGLAND, N.W.	3	1	6 less.	33	−3	4·0	−2·4	17	22	116 *	+19	21	+ 3
Principal Grazing, &c. Districts.	8. ENGLAND, S.W.	3	7	2 less.	32	−6	6·1	−2·8	15	21	134	+12	23	+ 2
	9. IRELAND, NORTH	3	2	5 less.	45	+3	6·4	−0·2	16	22	102	− 9	18	− 2
	10. IRELAND, SOUTH	4	3	4 less.	41	0	7·1	−1·2	25	33	134	+ 5	24	+ 1
	— CHANNEL ISLANDS	3	4	2 less.	41	0	4·7	−2·1	34	44	163	− 2	28	0

General Remarks.

Weather has been fairer than of late at our extreme northern and western stations, but in most other parts of the Kingdom the sky has been generally cloudy or overcast, and slight falls of snow or sleet have been very prevalent. In some parts of Scotland and over our south-western districts, however, the falls of snow towards the end of the period were heavy.

Temperature has been much below the mean in all districts. The average readings for this period have been considerably lower over the Kingdom as a whole than any recorded during the present winter. The deficit has ranged from 6° in "Scotland, N." and the "Channel Islands" and the greater part of Scotland, to as much as 9° or 10° over England. The highest of the maxima were registered during the early part of the period, and ranged from 41° over the north of England and the west of Scotland, to 44° in "Ireland, N." and 50° in "Ireland, S." and the "Channel Islands". On most days the maxima were far below 40°. The absolute minima, which occurred generally either on March 3rd or 4th, were as low as 8° in "Scotland, E." (at Braemar), 11° in "England, N.E." (at Durham), and between 14° and 21° in most other districts. In the "Channel Islands" the lowest reading was 32°.

Rainfall has slightly exceeded the mean in "England, N.E.", but has been less elsewhere, especially over eastern, central, and north-western England.

Bright sunshine has been rather more prevalent than it was last week in most districts, the percentage of the possible amount of duration having ranged from 17 to 45 in Scotland, from 22 to 33 in Ireland, and from 14 to 30 over England; in the "Channel Islands" the percentage was 44.

Barometer and Wind.—Barometric pressure continued highest over the northern parts of our area, and the changes over our Islands were comparatively slight and gradual. No depressions of importance appeared in our immediate neighbourhood until towards the close of the period, when a disturbance approached our south-western coasts and moved away south-eastwards. Light winds between North and East were generally prevalent over the United Kingdom, but at some of our south-western and western stations they subsequently shifted to the South-Eastward.

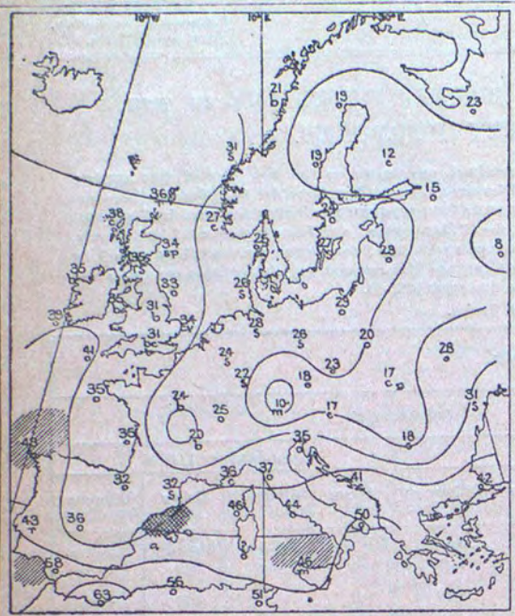
* These values have been altered slightly owing to the receipt of further information.

A 57810. 350.—3/89. Wt. 37. E. & S.

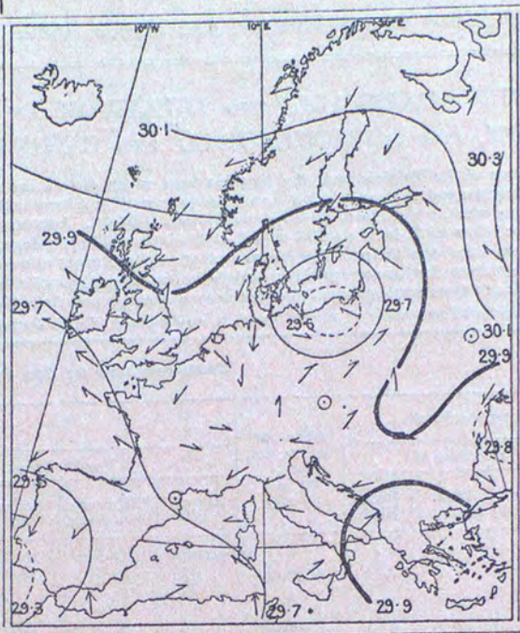
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 26th February.

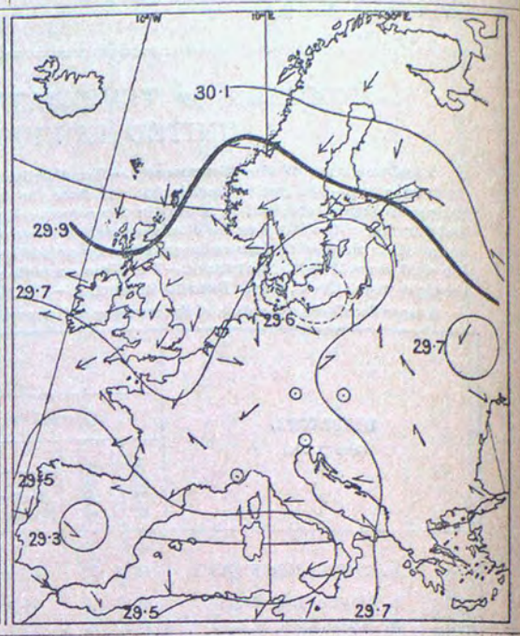
Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



6 p.m.



Weather cloudy or overcast generally, but fine over the central parts of our Islands and France. Snow falling over the Baltic, North Germany, and the south of Russia, as well as at some of our own northern stations. Rain falling later in many parts of Italy and Spain, and snow showers in the east and south of England.

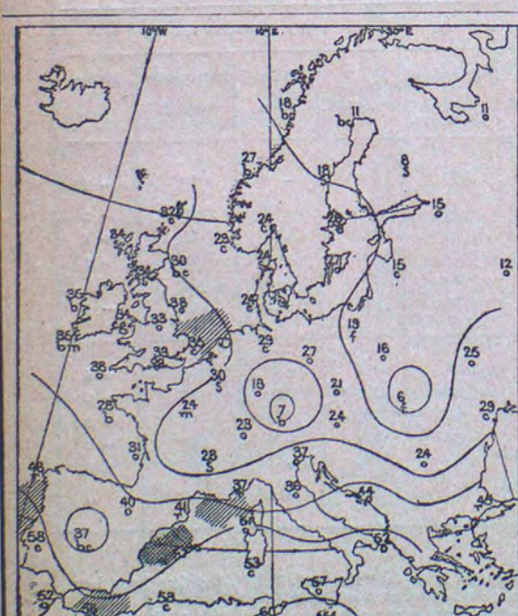
Temperature considerably below the freezing point over Northern and Central Europe, lowest reading being 8° at Moscow; slightly below 32° over Central and South-Eastern England. Considerably above 50° over Eastern Algeria, Tunis, and the south of Spain, and above 60° in Western Algeria, highest reading of all being 63° at Nemours. Maximum readings below 40° in nearly all parts of Great Britain.

Wind chiefly moderate or fresh from the Eastward or North-Eastward, but South-Easterly in Ireland and Southerly in Algeria. Cyclonic circulation of light winds reported over Germany and the Baltic Provinces of Russia. North-Easterly winds subsequently blowing strongly in Sweden, and fresh Northerly winds setting in over the north of Scotland.

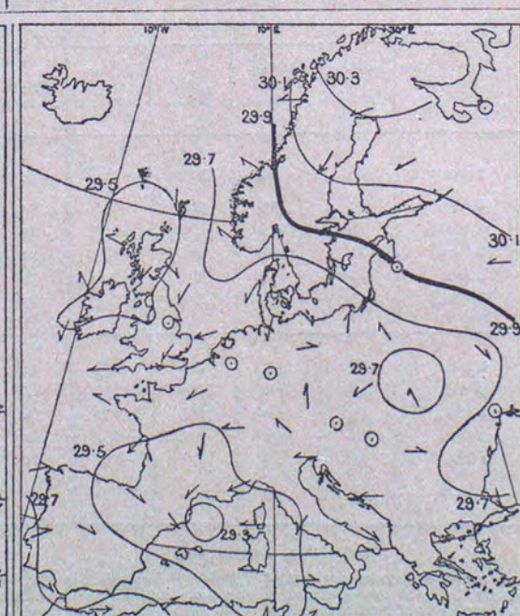
Barometer highest, 30·3 ins. and upwards, over Central Russia; high, 30·2 ins. and upwards, over the north of Norway. Lowest, 29·4 ins. and less, in a depression lying to the south-westward of the Iberian peninsula; low, 29·6 ins. and less, in another disturbance lying over North Germany. Former system subsequently moving in an east-north-easterly direction to Central Spain; latter remaining almost stationary.

Wednesday, 27th February.

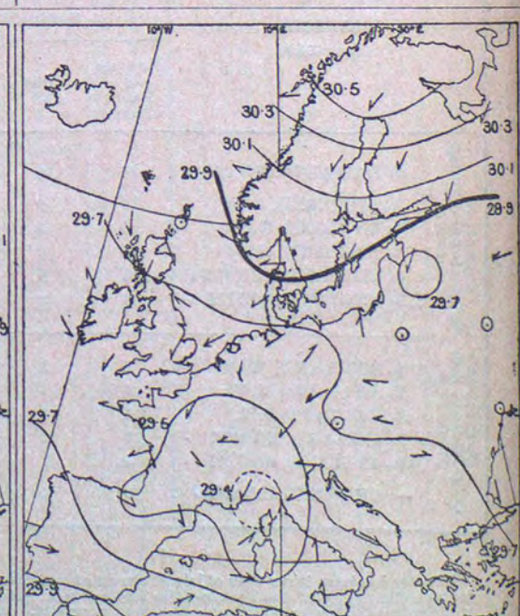
Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



6 p.m.



Weather fine in Ireland as well as in the east of Scotland, the north of Scandinavia, and Central Spain. Cloudy or overcast elsewhere, with snow in many parts of North-western, Northern, and Central Europe, and rain in the north-east of Spain and the south of France. Heavy rain falling later over Northern Italy as well as at Constantinople, and aurora seen at Haparanda at night.

Temperature considerably below the freezing point over the greater part of Northern and Central Europe, lowest readings being 6° at Lemberg, 7° at Munich, and 8° at Kuopio; slightly below 32° in many parts of the United Kingdom and also in the west of France. Above 50° at most of the Mediterranean stations and also on the south-west coasts of Spain, and above 60° in Tunis as well as at Malta. Maximum readings during day below 40° in nearly all parts of Great Britain.

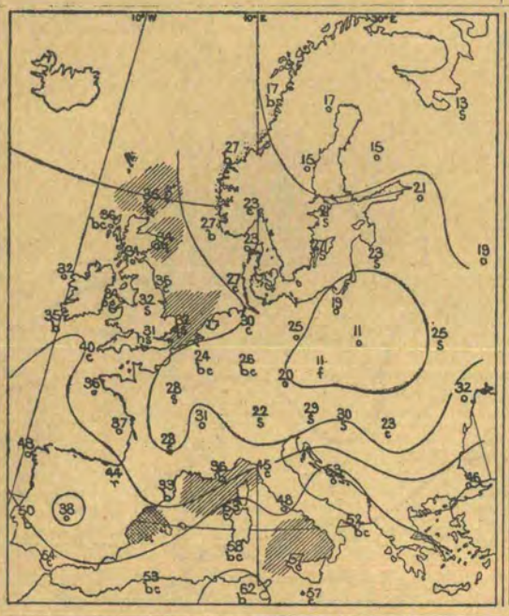
Wind chiefly Easterly or North-Easterly and light or moderate in force, but Southerly breezes reported in the north of Ireland, Westerly and North-Westerly breezes in Spain and Algeria, calms or variable airs in Austria and the south of Russia. Decided cyclonic circulation appearing later over Italy, the south of France, and the adjacent portions of the Mediterranean, but no important change occurring elsewhere.

Barometer highest, 30·3 ins. and upwards, over Lapland, but relatively high in Ireland and Scotland. Lowest, 29·3 ins. and less, in a well marked depression lying off the north-east coast of Spain; 29·6 ins. and less in a very shallow system lying over North Germany. Former system subsequently moving eastwards to the Gulf of Genoa, but latter entirely disappearing. No important change taking place in our Islands, but pressure increasing over Northern Europe.

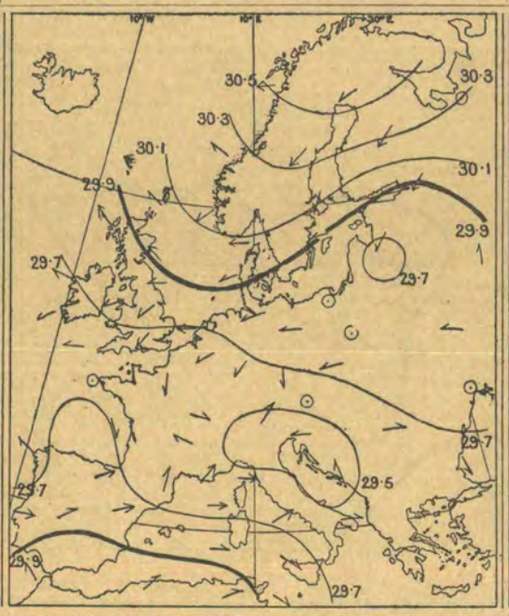
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 28th February.

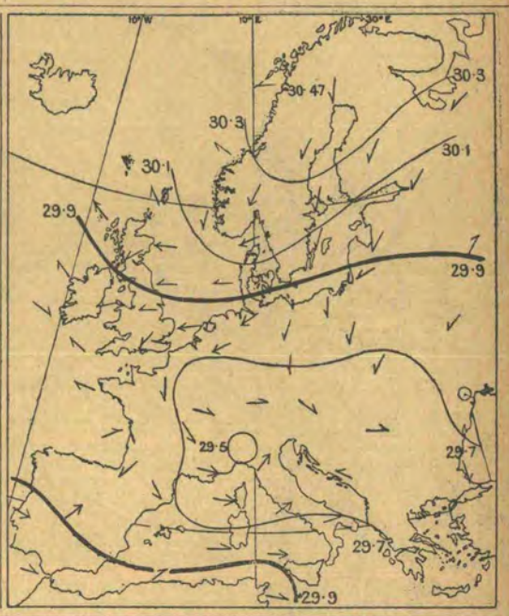
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather fine in the south of Ireland, as well as in Norway, Algeria, and the south of France. Cloudy or overcast elsewhere, with snow over England, the east of France, Austria, the Baltic, and the Gulf of Finland. Sky clearing later in many parts of Scotland, and also in Italy, but heavy snow falling at several of the Austrian stations, and thunderstorm occurring at Algiers.

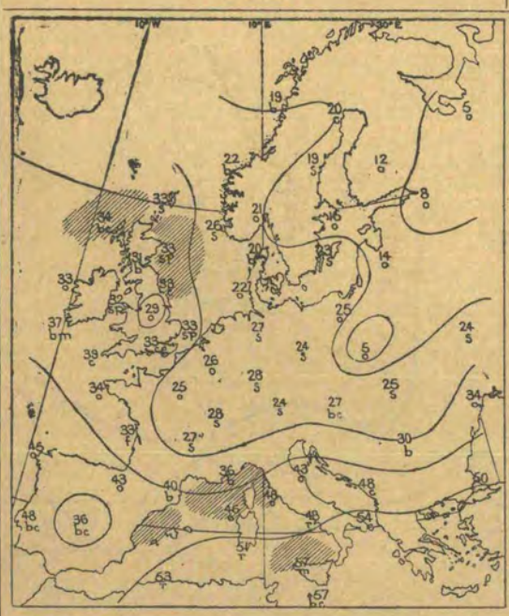
Temperature considerably below the freezing point over the whole of Northern and Central Europe, as well as over Central Ireland, the lowest readings being 11° at Breslau and Warsaw and 13° at Archangel; slightly below 32° over the inland parts of Great Britain. Above 50° over the central and southern parts of the Mediterranean, highest readings of all being 62° at La Calle, and 58° at Cagliari. Maximum readings below 40° in all parts of our Islands excepting the south of Ireland and the south-west of England.

Wind moderate to strong from the Eastward or North-Eastward over Finland, Sweden, the Baltic, Denmark, North Germany, and the greater part of England; South-Easterly in Scotland and the north of Ireland. Light from North-West in the west of France; moderate to strong from West over Spain, the south of France, Italy, and the Mediterranean; light from the Southward in Algeria. South-Easterly and Easterly winds subsequently increasing to a strong breeze in the north and east of Scotland.

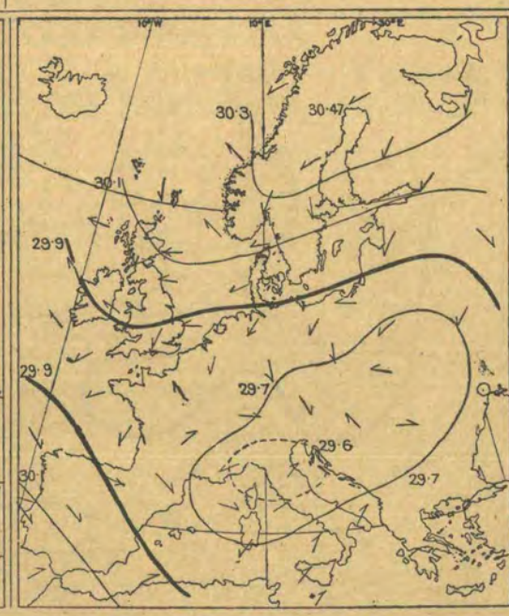
Barometer highest, 30·5 ins. and upwards, over Lapland; high, 30·0 ins. and upwards, over Algeria and the Straits of Gibraltar. Lowest, 29·5 ins. and less, in a large but shallow depression lying over Western Austria and Northern Italy. Barometer rising at all but the Russian and Austrian stations. No important change occurring during day.

Friday, 1st March.

Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.

Weather cloudy generally, with snow in many parts of Northern and Central Europe, as well as in the east and south-east of Great Britain, and rain at some of the Italian and Algerian stations. Fine in the west of Norway, the extreme south of France, and the southern part of the Iberian peninsula. Heavy rain falling later in the south-west of France.

Temperature very low over Poland and Northern Russia (Warsaw and Archangel 5° Faht.); considerably below the freezing point over the whole of Northern and Central Europe; slightly below 32° in many parts of the United Kingdom. Above 45° on the coasts of Spain and also over the Mediterranean, highest readings of all being 57° at Palermo and Malta and 54° at Brindisi. Maximum readings below 40° in most parts of the United Kingdom.

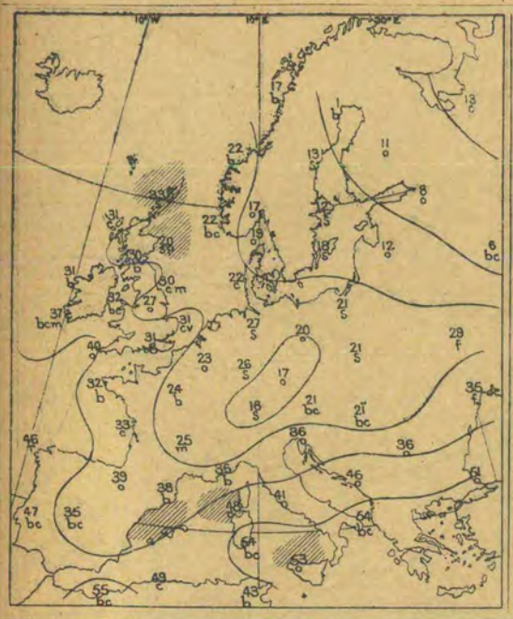
Wind light to fresh from the North-Eastward or Eastward over all the more northern parts of Europe, but South-Easterly in Ireland. Moderate North-Westerly in Spain and the south of France; South-Westerly in Algeria and Italy; variable in the south of Russia. Subsequently veering to East in Ireland and to North-West in Algeria.

Barometer still highest, 30·4 ins. and upwards, over Lapland, but high, 30·2 ins. and upwards, to the southward of Spain. Lowest, 29·6 ins. and less, in a depression lying over the Riviera and Northern Italy; low, 29·7 ins. and less, over the whole of Austria and South Germany. Barometer rising at all but the Scandinavian stations. No important change taking place during day.

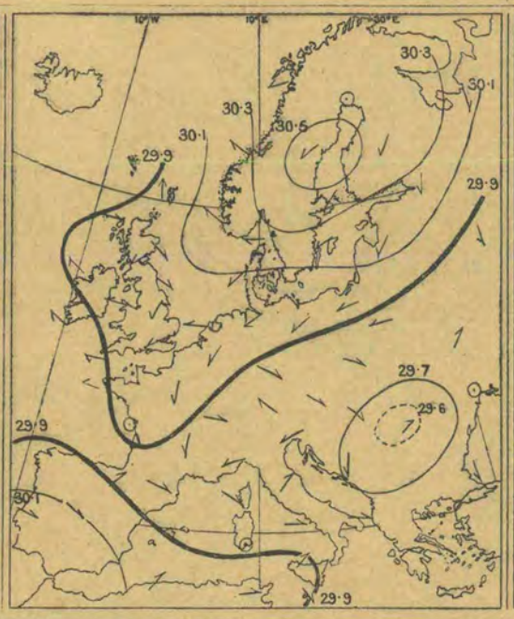
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 2nd March.

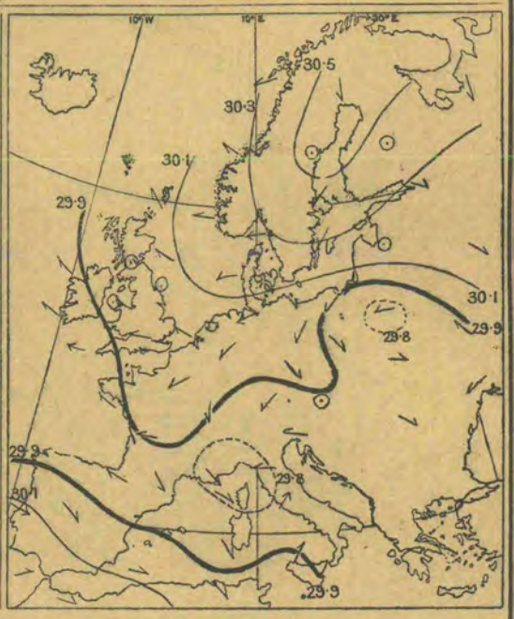
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine and bright on the Atlantic coasts both of Europe and the British Islands, but cloudy or overcast elsewhere, with snow at several stations, especially over Central Europe and the Baltic. Snowfall slight in most places, but heavy at a few stations over Northern and Central Europe; a good deal of rain falling subsequently at Roche's Point, Corunna, Biarritz, and Algiers, and heavy falls at Naples and Rome.

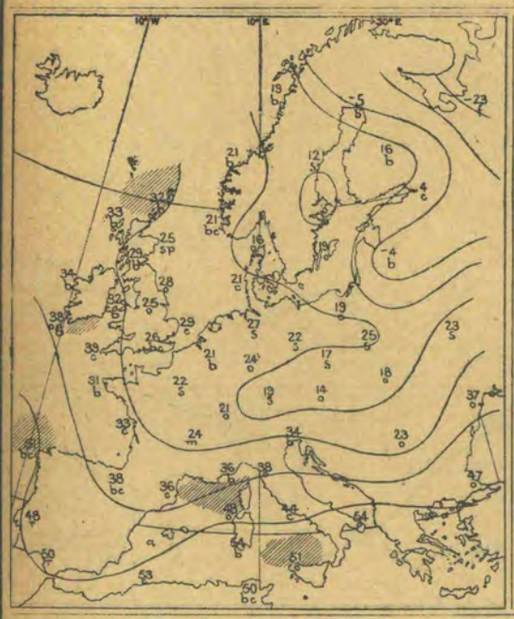
Temperature low generally and inclined to fall further; very decided fall observed at Aberdeen, but none of the readings reported below zero. Frost severe over Northern and hard over Central Europe, as well as in the east of Scotland. Some recovery in the latter region later, but cold becoming great over England at night.

Wind North-Easterly to Easterly, light to fresh, over nearly all the northern half of Europe, but South-Easterly to Southerly in northern parts of Scotland and Ireland. North-Westerly to Westerly over Spain and the greater part of the Mediterranean. The South-Easterly wind becoming general in Ireland later, but very little change noted elsewhere.

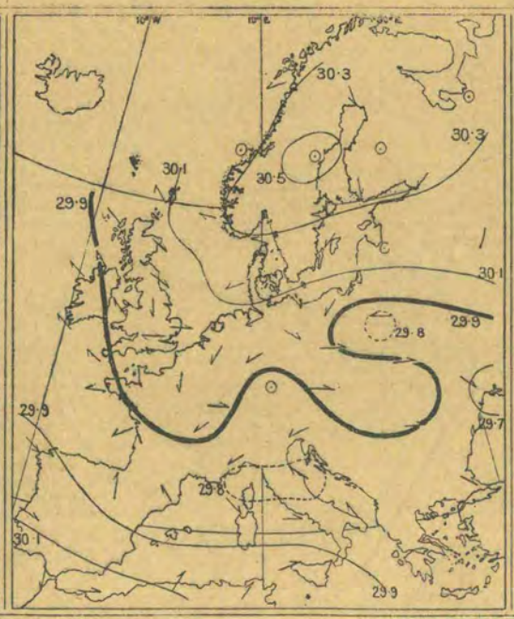
Barometer highest, 30·2 ins. to nearly 30·6 ins., in a large anticyclone lying over Norway, Sweden, and Finland; rather high, 30·0 ins. to nearly 30·2 ins., in another system over the southern half of Spain; lowest, 29·6 ins. and less, in a small depression near Hermanstadt, 29·7 ins. and less in another over the Gulf of Genoa, and about 29·8 ins. in a "hollow" lying off the south-west of Ireland. The latter hollow becoming rather deeper later, but no other change of importance noted.

Sunday, 3rd March.

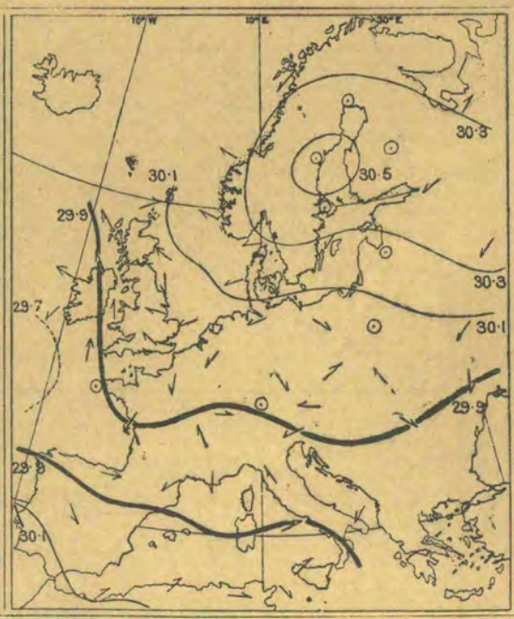
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather still fine and bright on most of the Atlantic coasts, excepting the south-western coasts of the British Islands, cloudy and unsettled elsewhere, with snow in many places; cold rain and sleet in the south-west of the British Islands, the latter becoming heavy later on, and considerable quantities of snow or rain falling very locally in the west of England and at several European stations, *e.g.*, Biarritz, Cape Béarn, several Italian stations, and Kiev.

Temperature fallen greatly over Northern Europe, and locally over England. Intense frost in Northern Russia, and severe over Poland and Austria-Hungary. Hard frost over the eastern half of Great Britain also, especially as night came on.

Wind still of little strength; North-Easterly to Easterly over the Baltic, the German Ocean, the Channel, the Northern and Western parts of France and North Germany; variable over England. South-Easterly in Ireland and the north of Scotland, and blowing strongly from South at Roche's Point. Still Westerly or South-Westerly over Spain and the greater part of the Mediterranean. The strong Southerly wind extending to the south-western parts of England and Wales later.

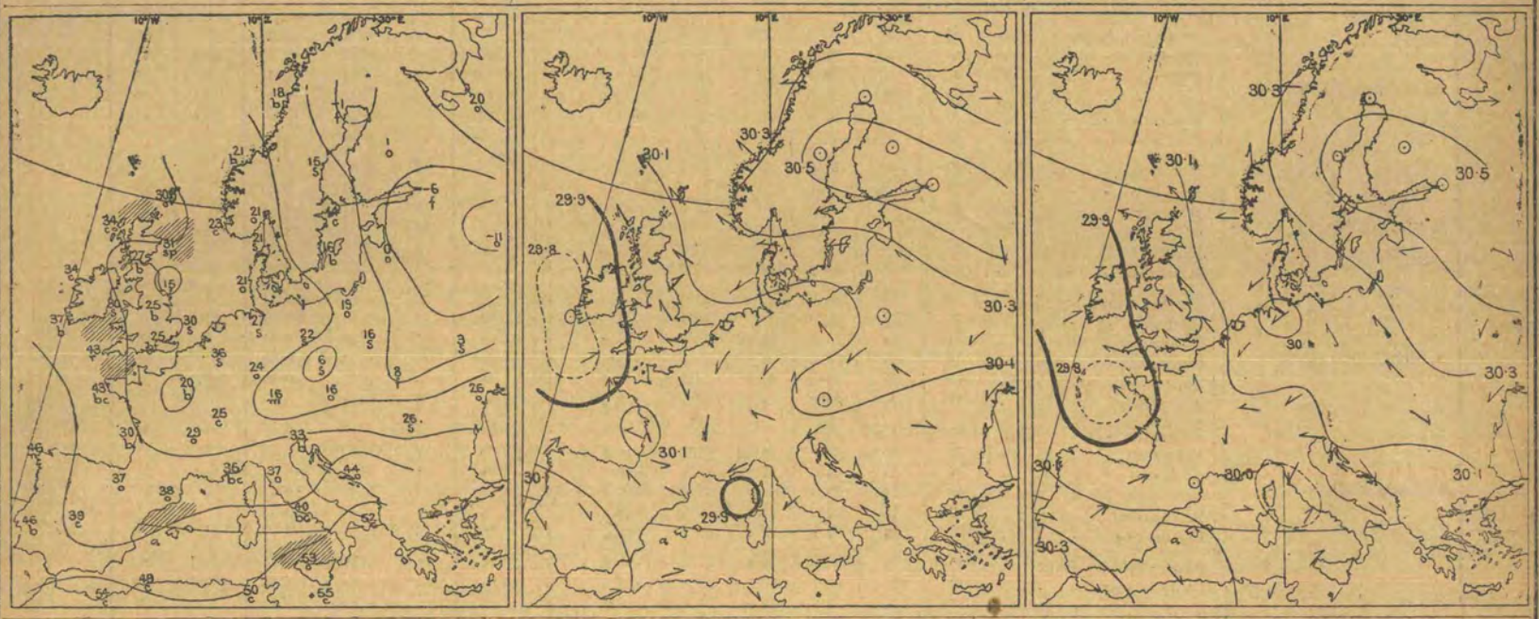
Barometer remaining highest over Scandinavia and Finland and somewhat high over Spain, with a broad trough stretching across Southern Europe, and separating the two systems from one another. Shallow complex depression forming over Ireland later; then breaking into two parts, of which the more southern moved southwards towards the coast of Brittany. The northern anticyclone beginning to spread eastwards, and moving slightly to the southward.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 4th March.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather little changed over Russia and Central Europe, except in temperature, and continuing fine over North-Western Europe; very unsettled, with much cold rain and snow, on the western coasts of France and England, rainy in Italy and Sicily, and rather so in several parts of Algeria.

Temperature still very low, especially over Russia, where the morning readings were much below zero Fahr. Very hard frost over Poland and Austria; sharp frost over Germany, France, and England. Thermometer higher than of late at our south-western and western stations, and on the shores of the Bay of Biscay. Becoming extremely cold in the east of Scotland at night.

Wind South-Easterly over the British Islands generally—with some local exceptions—Southerly over Brittany and the Bay of Biscay; still North-Easterly to Easterly in most other parts of Europe, but variable from the Westward over Spain and the southern half of the Mediterranean. Wind subsequently increasing to a slight gale from South-East and South in the West of France, but falling light and becoming more variable over the United Kingdom.

Barometer highest, 30·4 ins. to 30·6 ins., over Sweden, Finland, and Central Russia, still rather high over Spain, but with a cyclonic distribution. Shallow depression off our extreme north-western coasts, moving north-eastwards; another near Ushant, moving south-eastwards; and some very shallow systems over the northern parts of the Mediterranean and Italy, with uncertain movement. Barometer unsteady in our Islands later.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟹ = a heavy gale; → = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

The irregular distribution of pressure noticed over Europe at the commencement of the week disappeared gradually as two high-pressure systems were developed—one over Northern Europe, the other over Western Algeria and the Spanish Peninsula. The former was the stronger system of the two, and, stretching in a south-westerly direction in the form of a large "ridge," became almost united to the south-western system by Saturday morning. North-Easterly and Easterly winds of little strength have consequently been very prevalant, except over the southern parts of the Mediterranean, temperature has become low generally, hard local frosts have occurred over some parts of the British Islands, and more general and severe frosts on the Continent. Although a little snow has fallen from time to time in most places, the heavier falls reported have been of a local character, but have not been by any means exceptional.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
February 25, 1889	Llandudno	49	33	43·6	36·6	40·1	− 2·5	4	20	2	0·03	−0·43	23·9	34

III.—DATA from which the SUMMARY on page 49 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	38	28	33·3	29·9	32·5	− 6·4	0	67	7	0·48	−0·30	*	*
	Stornoway	41	25	38·6	29·9	34·1	− 5·7	0	55	4	0·30	−0·60	29·9	41
	Wick	41	26	38·1	29·3	33·6	− 5·3	0	59	7	0·81	+0·32	*	*
	Lairg ≈	43	16	38·6	21·9	30·2	− 7·4	0	83	4	0·62	−0·12	*	*
	Glencarron ≈	40	22	37·6	25·8	31·5	− 6·1	0	74	1	0·06†	?	35·9	49
	Fort Augustus ≈	39	20	38·6	27·4	32·8	− 5·8	0	64	1	0·09†	?	*	*
1. SCOTLAND, E.	Nairn	40	20	38·0	24·9	31·5	− 8·1	0	74	2	0·33	−0·07	*	*
	Aberdeen	39	19	36·1	26·7	31·3	− 7·6	0	75	7	0·80	+0·20	16·5	23
	Braemar ≈	37	8	33·5	20·7	26·9	− 8·5	0	106	3	0·12	−0·56	20·7‡	23‡
	Ochtertyre ≈	43	23	38·4	26·6	32·3	− 5·3	0	68	6	0·23	−0·62	*	*
	Leith	42	19	39·0	27·7	33·2	− 7·0	0	62	4	0·15	−0·20	*	*
	Marchmont ≈	39	15	36·3	25·0	30·5	− 7·3	0	81	5	0·58	+0·03	20·3	27
2. ENGLAND, N.E.	Alnwick Castle	37	13	34·7	25·6	30·0	− 9·1	0	84	6	0·97	+0·44	*	*
	Durham	39	11	36·8	24·3	30·4	− 8·9	0	81	5	0·46	+0·01	14·5	20
	Shields	41	15	36·7	27·7	32·1	− 7·8	0	69	5	0·80	+0·41	*	*
	Scarborough ℳ	39	17	35·6	27·6	31·5	− 8·2	0	74	5	0·33	−0·09	16·0‡	22‡
	York	40	23	37·3	27·1	32·1	− 7·9	0	69	4	0·15	−0·27	10·7	14
	Spurn Head	37	27	35·9	29·9	32·8	− 7·0	0	64	5	0·20	?	*	*
3. ENGLAND, E.	Hillington ℳ	38	17	36·9	24·8	30·7	− 9·4	0	79	4	0·11	−0·30	25·3	34
	Yarmouth	36	25	33·9	28·1	30·9	−10·0	0	78	7	0·33	−0·16	*	*
	Geldeston	37	20	35·6	25·6	30·5	−10·5	0	81	5	0·10	−0·29	18·9	25
	Cambridge	42	14	39·3	23·4	31·1	− 9·7	0	76	5	0·06	−0·31	22·6	30
	Rothamsted	37	17	35·2	25·1	30·0	−10·8	0	84	3	0·06	−0·43	*	*
	Ingatestone	37	20	35·9	26·1	30·9	−10·7	0	78	6	0·19	−0·17	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	40	19	38·0	24·6	31·1	− 9·7	0	76	5	0·18	−0·21	16·5‡	22‡
	Loughborough	42	21	39·1	26·9	32·8	− 8·0	0	64	3	0·09	−0·33	20·8‡	28‡
	Cheadle ℳ	37	22	35·5	25·9	30·6	− 9·1	0	80	3	0·11	−0·49	*	*
	Churchstoke ℳ	37	21	34·4	25·9	30·0	−10·6	0	84	4	0·18	−0·38	5·2	7
	Hereford ℳ	39	26	36·2	28·9	32·4	− 8·9	0	67	3	0·13	−0·37	*	*
	Cirencester	39	25	36·0	27·4	31·6	− 9·2	0	73	3	0·20	−0·37	13·4	18
	Oxford	39	23	37·1	27·9	32·4	− 8·8	0	67	2	0·03	−0·39	18·0	24
5. ENGLAND, S.	London	39	20	37·4	27·9	32·6	− 9·2	0	66	4	0·12	−0·28	7·9‡	11‡
	Strathfield Turgiss ℳ	39	20	36·3	27·3	31·7	−10·1	0	72	2	0·09	−0·33	*	*
	Dungeness	38	21	36·1	26·4	31·1	−11·8	0	76	3	0·19	−0·30	*	*
	Hastings (St. Leonard's)	37	24	35·9	28·4	32·0	−10·4	0	70	3	0·18	−0·29	24·3	32
	Southampton	43	28	38·5	29·5	33·9	− 8·2	0	57	3	0·13	−0·47	5·7	8
	Hurst Castle	39	28	37·7	30·9	34·2	− 8·7	0	55	3	0·04	−0·48	*	*
	Stowell ℳ	36	28	34·5	28·7	31·5	−10·3	0	74	4	0·61	?	2·7‡	4‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	41	23	37·7	29·9	33·7	− 6·3	0	58	3	0·08†	−1·92	*	*
	Glasgow	39	25	36·4	29·4	32·8	− 7·0	0	64	3	0·05	−0·66	8·1	11
	Ardrossan	40	25	38·0	28·9	33·3	− 6·7	0	61	2	0·03	−0·71	*	*
	Glenlee ≈	39	14	36·7	23·5	29·9	− 8·7	0	85	0	—	?	*	*
	Douglas (Isle of Man)	39	30	37·6	32·1	34·8	− 7·1	0	50	4	0·20	−0·58	16·1	22
7. ENGLAND, N.W.	Newton Reigny (Penrith)	38	17	36·2	23·4	29·6	− 9·3	0	87	3	0·08	−0·57	18·5	25
	Barrow-in-Furness	39	26	37·3	28·9	33·0	− 8·9	0	63	2	0·05	−0·57	*	*
	Stonyhurst	39	21	35·9	26·6	31·2	− 8·6	0	76	3	0·07	−0·81	15·2	21
	Blackpool ℳ	41	25	38·3	28·8	33·4	− 7·4	0	60	1	0·02	−0·53	17·2	23
	Manchester	37	24	35·7	28·4	31·9	− 8·9	0	71	1	0·03	−0·58	*	*
	Liverpool Obsy (Bidston)	37	25	35·7	29·3	32·4	− 9·0	0	67	3	0·06	−0·46	*	*
	Llandudno ℳ	40	26	37·8	28·9	33·2	− 9·7	0	62	1	0·02	−0·48	13·1	20
	Holyhead	40	29	38·6	31·3	34·8	− 8·3	0	50	6	0·10	−0·47	*	*
8. ENGLAND, S.W.	Llandovery	38	22	36·6	26·3	31·3	−11·3	0	75	3	0·09	−0·92	*	*
	Pembroke	40	30	38·1	31·4	34·7	− 9·4	0	51	2	0·42	−0·27	18·7	25
	Arlington (N. Devon)	37	26	35·1	27·4	31·1	−10·7	0	76	3	0·32	−0·68	*	*
	Cullompton ℳ	39	25	36·3	29·0	32·5	− 9·8	0	67	4	0·50	−0·24	6·6	9
	Falmouth	42	28	40·0	31·1	35·4	− 8·6	0	46	4	1·59	+0·69	21·2	28
	Plymouth	40	26	39·1	30·4	34·6	− 9·3	0	52	2	1·00	+0·39	14·8	20
	Prawle Point	40	26	37·7	28·9	33·2	−10·3	0	62	4	0·68	?	*	*
9. IRELAND, N.	Malin Head	39	30	37·0	31·6	34·2	− 6·7	0	55	2	0·04	?	*	*
	Londonderry	44	28	40·1	31·0	35·4	− 5·4	0	46	3	0·15	−0·50	*	*
	Mullaghmore	44	31	40·3	32·1	36·1	− 5·3	0	41	1	0·06	−0·74	*	*
	Belmullet	43	30	41·6	31·7	36·5	− 7·4	0	39	2	0·44	?	*	*
	Markree Castle	42	21	39·1	27·2	33·0	− 8·0	0	63	2	0·07	−0·54	16·4	22
	Brookeborough	40	26	38·5	28·7	33·5	− 6·3	0	60	3	0·18	?	*	*
	Armagh	41	25	38·1	29·1	33·5	− 8·2	0	60	3	0·16	−0·39	15·3	21
	Donaghadee	41	32	38·6	33·9	36·2	− 5·7	0	41	7	0·35	−0·19	*	*
	Edgeworthstown	43	23	39·1	27·9	33·3	− 6·9	0	61	5	0·26	−0·49	*	*
10. IRELAND, S.	Dublin	40	31	39·0	32·8	35·8	− 6·6	0	43	7	0·56	+0·04	5·8	8
	Parsonstown	46	21	42·0	24·6	33·0	− 8·8	0	63	1	0·01	−0·54	24·9	33
	Kilkenny	47	25	41·6	29·6	35·4	− 6·4	0	46	1	0·03	−0·57	*	*
	Waterford	48	27	42·6	30·7	33·5	− 7·3	2	39	6	0·28	−0·49	*	*
	Roche's Point	46	29	43·1	32·9	37·9	− 6·3	3	32	4	0·82	−0·13	*	*
	Valencia	50	33	46·3	35·4	40·7	− 4·5	12	25	5	0·62	−0·48	44·5	50
	Killarney	47	27	43·6	29·2	36·2	− 7·6	4	45	2	0·06	?	*	*
	Foynes	47	26	42·4	31·0	36·5	− 5·9	1	37	2	0·18	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	50	35	44·1	35·9	39·9	− 6·0	6	22	3	0·75	+0·13	*	*
	Jersey	42	32	40·9	33·3	37·0	− 5·8	0	35	2	0·05	−0·55	33·6	44

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ≈ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, and Laudale being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the first and second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 10.] *Third Series.* WEEK ENDING MONDAY, 11TH MARCH, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861-80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866-85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881-85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

DISTRICTS. (See p. 60.)	Observed during the Week. Highest.	Observed during the Week. Lowest.	Averages of Daily Maxima.	Averages of Daily Minima.	Averages of Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
	°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	47	21	42·5	30·8	36·5	2 below.	1	− 8	39	+ 8	47	−24	381	+ 67
1. SCOTLAND, EAST	52	10	42·6	28·7	35·4	3 below.	2	−13	45	+13	63	−40	422	+ 62
2. ENGLAND, N.E.	49	15	41·4	31·1	36·1	4 below.	0	−15	41	+13	42	−64	396	+ 72
3. ENGLAND, EAST	53	18	45·2	30·6	37·7	3 below.	9	−11	41	+12	41	−89	493	+155
4. MIDLAND COUNTIES	51	23	43·6	29·9	36·5	4 below.	4	−18	42	+14	51	−94	457	+126
5. ENGLAND, SOUTH	54	23	46·1	33·6	39·7	3 below.	11	−13	31	+ 9	61	−95	378	+120
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	49	26	43·6	32·4	37·9	3 below.	4	−10	34	+10	84	−29	301	+ 37
7. ENGLAND, N.W.	48	25	42·8	32·8	37·7	4 below.	2	−13	32	+10	54	−59	307	+ 46
8. ENGLAND, S.W.	53	24	46·3	34·1	39·9	4 below.	12	−12	29	+16	114	−90	261	+106
9. IRELAND, NORTH	51	24	47·1	33·3	40·0	2 below.	14	− 5	33	+12	127	−28	256	+ 26
10. IRELAND, SOUTH	54	24	48·6	32·9	40·5	3 below.	18	− 9	35	+21	192	−38	189	+ 35
— CHANNEL ISLANDS	54	29	49·0	39·5	44·1	1 below.	25	− 2	7	+ 2	203	−36	69	− 5

Rainfall. Bright Sunshine.

DISTRICTS. (See p. 60.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
		10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	5	8	2 less.	53	+3	10·9	+1·2	25	33	113	− 1	19	0
1. SCOTLAND, EAST	4	3	3 less.	42	+6	3·8	−2·6	23	30	151	− 7	25	− 1
2. ENGLAND, N.E.	3	10	6 more.	37	+1	3·5	−1·1	24	30	139	+30	22	+ 5
3. ENGLAND, EAST	3	7	3 more.	37	−1	3·2	−1·2	26	33	141	− 2	22	0
4. MIDLAND COUNTIES	4	19	14 more.	34	−3	4·7	−0·9	23	30	125	− 4	19	− 1
5. ENGLAND, SOUTH	4	10	5 more.	36	0	4·3	−1·5	26	32	123	− 7	19	− 1
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	5	10	2 less.	43	−2	8·9	−2·6	29	38	146	+33	23	+ 5
7. ENGLAND, N.W.	4	7	1 more.	37	−3	4·7	−2·3	24	31	140	+25	22	+ 4
8. ENGLAND, S.W.	5	19	12 more.	37	−5	8·0	−1·7	29	37	163	+16	25	+ 2
9. IRELAND, NORTH	5	4	2 less.	50	+3	6·8	−0·4	34	43	136	+ 6	21	0
10. IRELAND, SOUTH	3	5	2 less.	44	−1	7·6	−1·4	42	53	176	+21	27	+ 3
— CHANNEL ISLANDS	6	13	8 more.	47	+1	6·0	−1·3	31	39	197	+ 3	29	0

General Remarks.

Weather has varied considerably at different times during this period. On some days the sky was comparatively clear, but on others it was densely overcast, and rain, sleet, and snow were experienced. During the 6th, 7th, and 8th, the rainfall was unusually heavy over the south-western parts of the Kingdom; on the 8th very large amounts were measured in some parts of Central England also.

Temperature has continued below the mean, but the deficit has been much less than that of last week. The highest of the maxima (which were recorded on somewhat irregular dates) ranged from 47° in "Scotland, N." to 54° in "England, S.", "Ireland, S.", and the "Channel Islands". The lowest of the minima were generally registered on the 5th, when the thermometer fell to 10° in "Scotland, E." (at Aberdeen and Braemar), and to between 15° and 23° in the other "Wheat-producing" districts; in the western parts of the Kingdom the minima ranged from 24° to 26° while in the "Channel Islands" the lowest reading was 29°.

Rainfall has been more than the mean over England, but less in Ireland and Scotland; in the north-east and south-west of England the amount has been nearly three times as much as the mean, and in the "Midland Counties" almost four times. The largest amount recorded at any of our stations during twenty-four hours was 2·06 ins. at Loughborough on the 8th.

Bright sunshine shows an increase on that of last week in most districts. The percentage of the possible amount of duration ranged from 30 to 38 over Great Britain, and from 43 to 53 in Ireland.

Barometer and Wind.—The changes in pressure over the United Kingdom during this period have been frequent and decided. The barometer has continued highest over the north-eastern parts of our area, while in different parts of our Islands and their neighbourhood depressions have appeared. At first the disturbances passed north-eastwards over our extreme north-western coasts, and the winds were moderate from between South-East and South-West. On the 7th and 8th, however, two depressions approached our south-west coasts, and, while one of these extended over England and partially dispersed, the other moved rather slowly north-eastwards to our east coasts and finally northwards over the North Sea. During the passage of these systems the wind increased to a fresh or strong gale from the Southward or South-Westward over our more southern and south-eastern counties, while to the northward of the centre moderate breezes from between North-West and North-East were general. These disturbances were accompanied by the heavy falls of rain noted above.

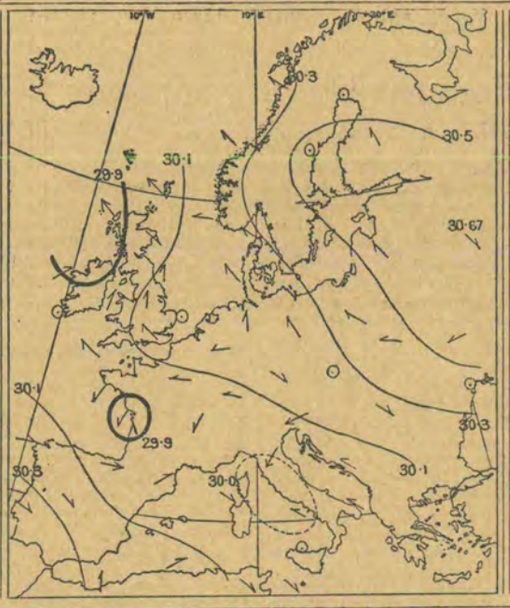
A 57904. 350.—3/89. Wt. 37. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

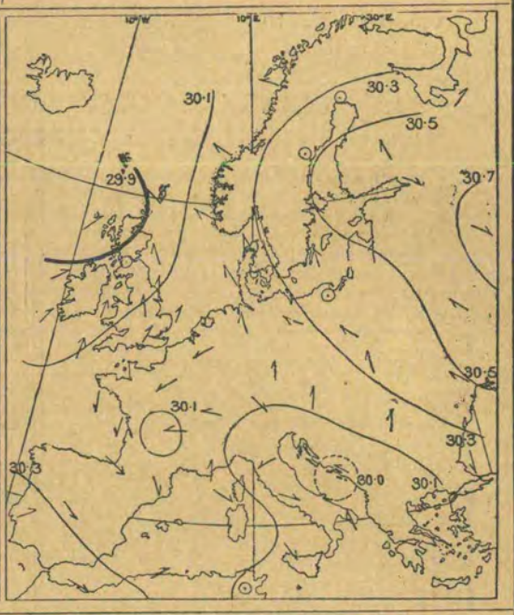
Tuesday, 5th March.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.**



6 p.m.



Weather changeable and somewhat showery on some parts of our western coasts as well as in the west of France; very rainy in the north of Spain, and over the northern extremity of the Adriatic, fair in most other regions, and in many places clear, especially over Russia, France, and the east of England. Rainfall very heavy at Bilbao during the day, but decreasing in the Adriatic; becoming showery on all the western and northern coasts of the British Islands later.

Temperature low everywhere, and changing irregularly; below zero in Sweden and Finland and much below the freezing point over Russia, Poland, and Austria-Hungary, as well as (locally) in the east of Scotland, less low over France and England, but below 40° throughout our Islands, except at Scilly. Readings exceeding 50° reported from the western and southern parts of Spain and the Mediterranean only. Decided rise observed in Ireland and Scotland later.

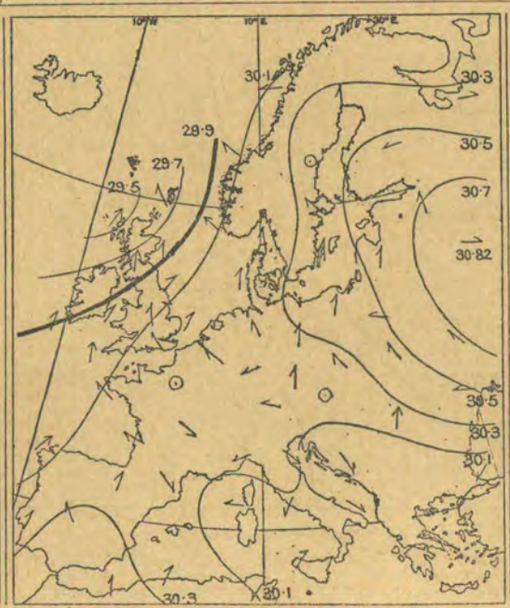
Wind South-Easterly to Easterly, moderate to light, over the whole of Northern, Eastern, Central, and some parts of Southern Europe, South-Easterly, light to fresh, over Great Britain. Calm in Ireland, Westerly over Spain, South-Westerly over Algeria. Wind falling light, and becoming more Southerly in the British Islands later, and North-Westerly airs setting in over Sardinia, Italy, and Sicily.

Barometer highest (30·3 ins. to 30·6 ins.) over Russia; rather high, 30·1 ins. to 30·4 ins., over Spain. These two regions separated by a broad band of relatively low pressure spreading from the British Islands across the Bay of Biscay, France, and Switzerland to Italy, and the eastern parts of the Mediterranean; in this several shallow depressions were found.

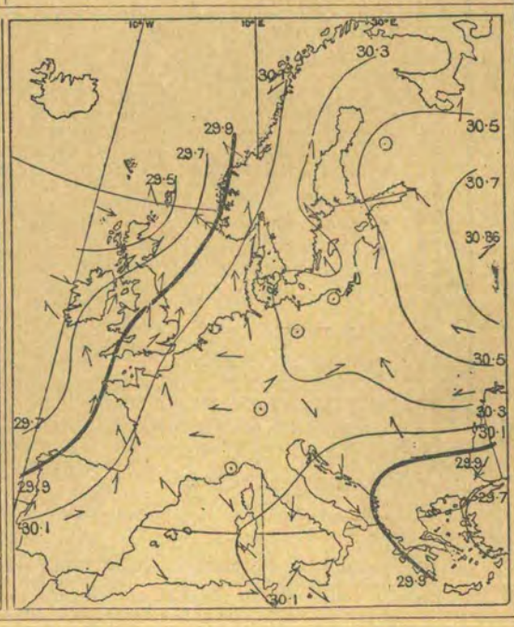
Wednesday, 6th March.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.**



6 p.m.



Weather fine over Eastern, Central, and Southern Europe, rain in eastern Algeria, snow at Pesaro, becoming milder and more unsettled over the British Isles, and the western parts of France, where large quantities of rain fell later, and snow in several places. Heavy rain fell at Constantinople also.

Temperature beginning to rise decidedly over North-Western Europe, but continuing low elsewhere. Morning readings below zero in many parts of Russia and Sweden, much below the freezing point over the Continent generally, and just about the freezing point over Central England; thermometer standing above 50° on the western coast of Spain and at some of the Mediterranean stations, 48° at Scilly, and 47° at Valencia. Subsequently rising to more than 50° on our south west coasts, and to 49° in London.

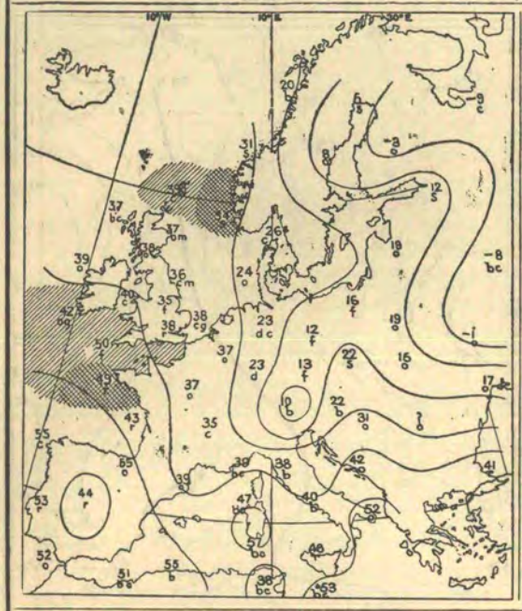
Wind Southerly and South-Westerly over the British Islands, the Bay of Biscay, and Spain, and blowing freshly in several places; South-Easterly, moderate, over Northern Europe, calm over France and Germany, very variable over the Mediterranean. Southerly wind subsequently increasing in the south of our Islands, while in the south-west the wind shifted to the northward.

Barometer highest (30·4 ins. to upwards of 30·8 ins.) over Russia, comparatively low over the Mediterranean, and still lower over the Atlantic; lowest of all (29·5 ins. and less) in a depression off the north-west of Scotland. Mercury falling in the west and north-west; a well-formed depression advancing towards the mouth of St. George's Channel from the south-westward later, and a large disturbance forming over Asia Minor.

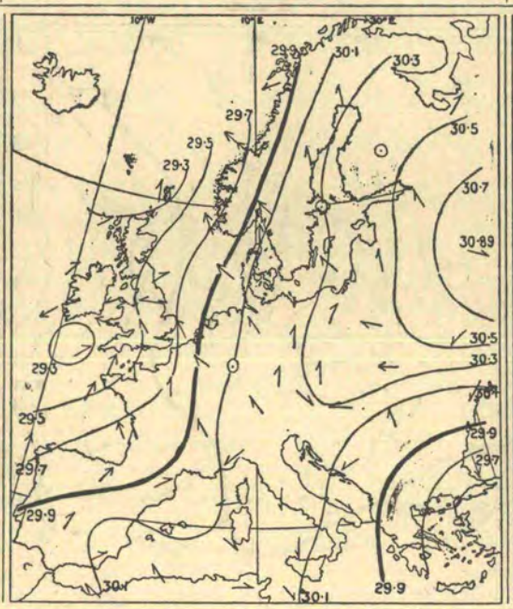
II.—SUMMARY OF WEATHER OVER EUROPE

Thursday, 7th March.

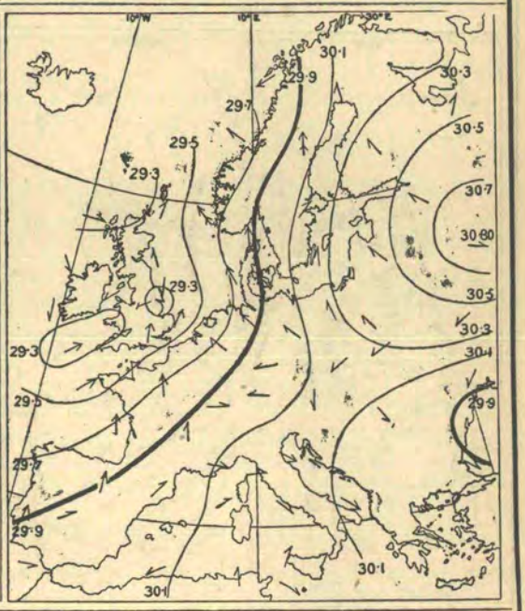
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather very unsettled over the British Islands, and their neighbourhood, rain in considerable quantity at many stations, snow in Norway; comparatively fair, but cloudy over Eastern Europe, and foggy in Poland and North Germany. Rainfall heavy during the day in the British Islands, and considerable in Holland, the north and the south-west of France, in Spain and Portugal.

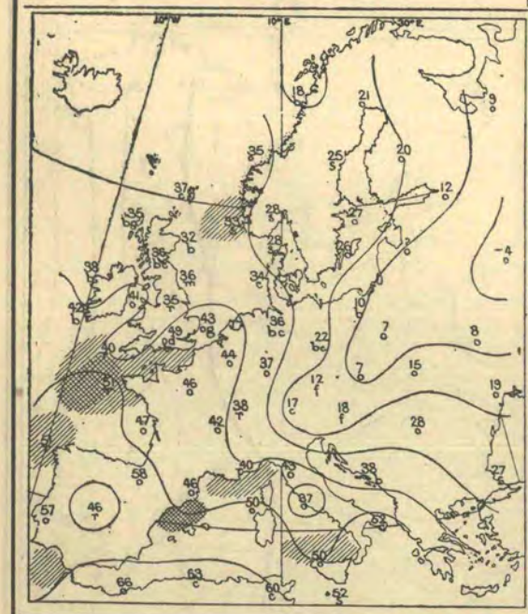
Temperature rising and above the average over Western Europe generally, but very unsteady. Rising over Finland and the Baltic Provinces, but falling and very low over Russia, where the morning readings were much below zero Faht. Rising to between 50° and 55° over the greater part of France during the day, and at the extreme southern and south-eastern stations in England; falling over the more northern parts of our area.

Wind Southerly (South-West to South-East) over the greater part of Western Europe—strong to a gale in the Channel, and on the north-eastern shores of the North Sea; Easterly in the south of Russia, and South-Easterly to Southerly in the north; Northerly to North-Westerly over the Mediterranean, but moderate in force. Not much change later.

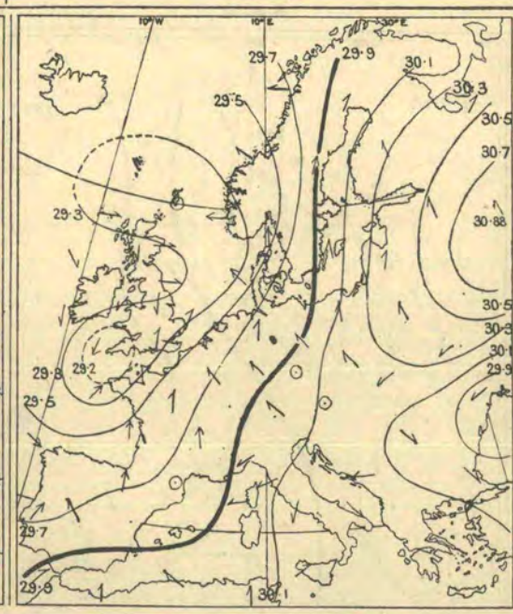
Barometer remaining highest (30·3 ins. to 30·8 ins.) over Poland and Russia; low, 29·6 ins. and less, over Asia Minor, 29·3 ins. and less off our extreme northern coasts, and also in a depression, the centre of which lay between Scilly and the Irish coast at 8 a.m., and was moving north-eastwards towards Central England. The disturbance undergoing considerable modifications in form later on, and a new one approaching our south-western coasts subsequently from the Bay of Biscay.

Friday, 8th March.

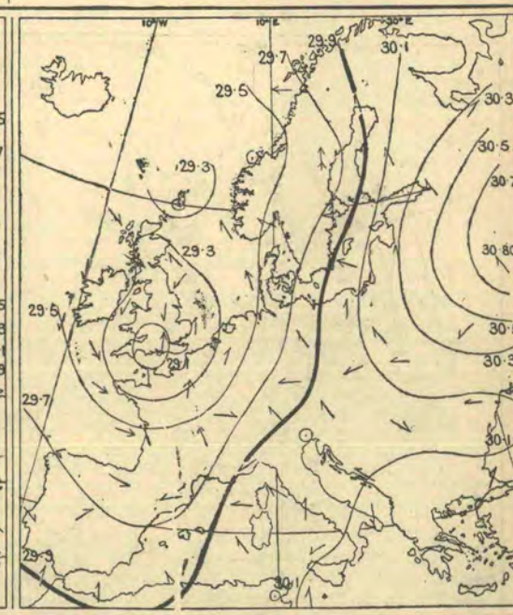
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine in Scotland and the western parts of Ireland, very rainy over England, and unsettled over Western Europe generally. Unusually heavy rainfall (snow and cold rain) over our midland and western counties and in Scandinavia later, considerable quantities over Brittany, and also over Southern Europe during the day. Weather in Russia and Central Europe fair and quiet.

Temperature remaining below zero Faht. over Central Russia, but inclined to rise a little in most places. Hard frost still prevalent over Poland, Hungary, and Austria, as well as in Lapland and the north of Sweden; slight frost in Ireland. Rising considerably in the west of our Islands during the day, but remaining low over our midland and northern counties.

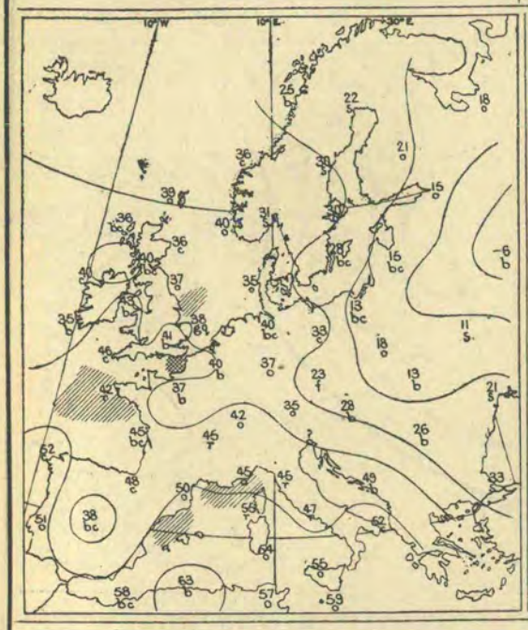
Wind Southerly (South-West to South-East) over the greater part of Western and North-Western Europe, and blowing a gale at times over the Channel and south of England; South-Easterly, strong, over Scandinavia and the Baltic, light and variable from East and South-East over Russia. North-Westerly to Northerly, light to moderate, over Scotland, Ireland, and the north of England, with a tendency to veer North-Eastwards later.

Barometer remaining highest, 30·2 ins. to 30·9 ins., over Poland and Russia; low, 29·9 ins. and less, in a depression over the Black Sea, 29·3 ins. and less off our northern coasts, and 29·2 ins. and less in a new depression lying over Devon, Cornwall, and the mouth of the English Channel. Said depression subsequently moving north-eastwards to North Sea, and growing deeper, so that on its centre passing over our south-midland counties the barometer (corrected to sea-level) fell below 29·0 ins. in some places.

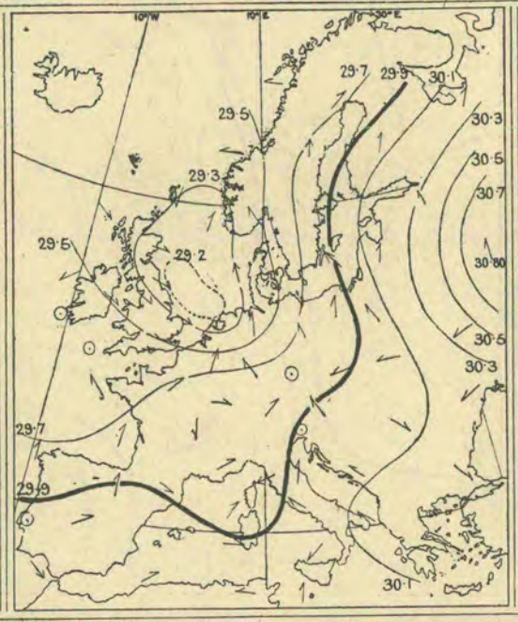
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 9th March.

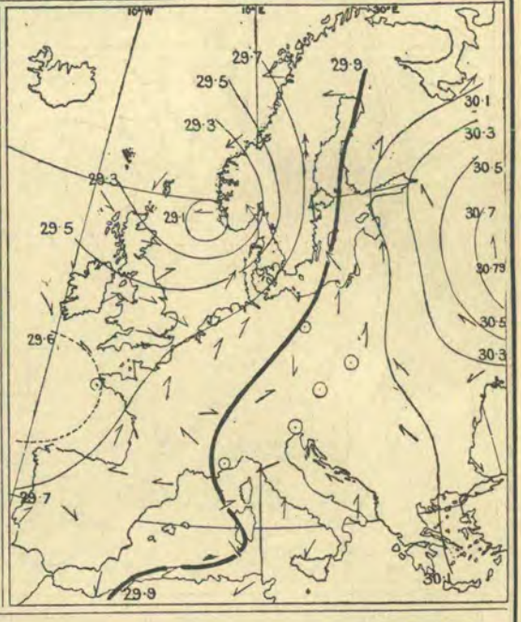
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather rather showery in the north-east and east of our Islands, fine elsewhere; dull, changeable, and showery in the west of France, snowy in the north of Sweden, comparatively fine over Eastern and Central Europe. A good deal of rain in Spain, the west and north of France, and the south-western parts of our Islands later, and local showers in the north-west, but a fine bright day over England generally.

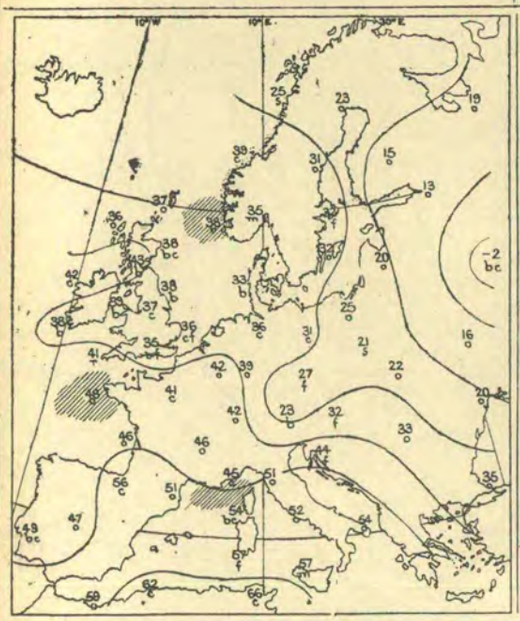
Temperature risen over Western and Central Europe, but continuing very low over Russia and Poland; still below zero over Central Russia, and much below the freezing point in Poland, the Baltic Provinces, and Finland. No frost over Western and South-Western Europe, except over Central Ireland; morning readings 50° or more reported at most of the Mediterranean stations, 59° at Malta, and 63° at Algiers. Maxima recorded during the day, 51° in London, 63° at Biarritz, 66° at Palermo, and 75° to 79° at the Algerian stations.

Wind Southerly, moderate to a gale, over the Baltic and eastern shores of the North Sea, Westerly, strong to a gale, over the eastern half of England, North-Westerly, moderate, on our western coasts. Very variable in France, Germany, and Spain. Gales moderating in England later, but becoming more general in the Baltic, and wind backing to South-Eastwards on our south-western coasts.

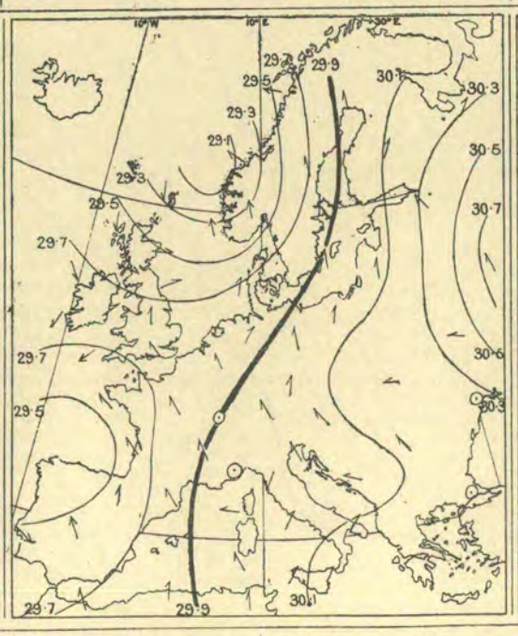
Barometer highest (30·1 ins. to 30·8 ins.) in large anticyclone over Russia, and exceeding 30·0 ins. over Algeria; lowest, 29·2 ins. and apparently much less, in a depression lying off our eastern coasts, and below 29·6 ins. off our south-western coasts also. Gradients variable and irregular—steep over our south-eastern counties and the Netherlands; pressure changing irregularly. Depression over the North Sea moving quickly to the northward later, while a new one began to approach Corunna from the Atlantic.

Sunday, 10th March.

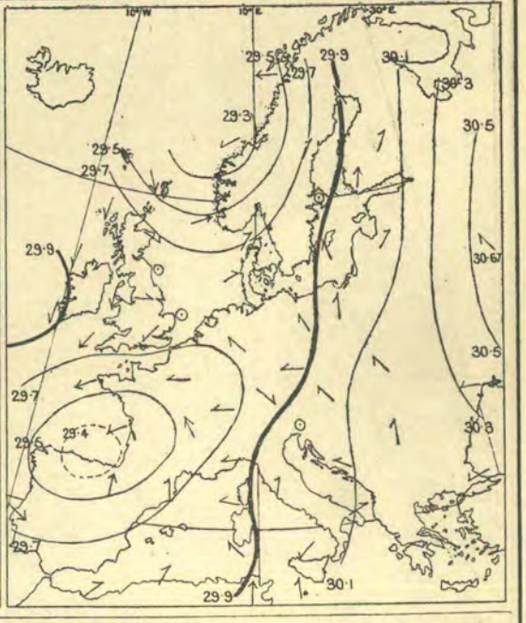
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather fine in Ireland, Scotland, and the north of England, fair over Eastern and Central Europe generally; foggy, gloomy, and damp over the south-east of England, rainy in the south-west, and dull and unsettled over the west of France and north of Spain. Rain at all the south-western and some of the northern stations later, the largest falls reported being at the western and southern French stations, and at Trieste. Considerable fall in Holland also.

Temperature remaining very low over Central Russia, increasing over Scandinavia and Central Europe, changing irregularly over Spain, France, and the British Islands. Above the freezing point, except over Northern and Eastern Europe, and reaching 50° to 57° at many of the Mediterranean stations, 62° at Algiers, and 66° at La Calle. Rising to between 70° and 77° at the Algerian stations later, to 68° at Palermo, and to 64° at Rome, but not reaching 50° over our Islands, except at Leith.

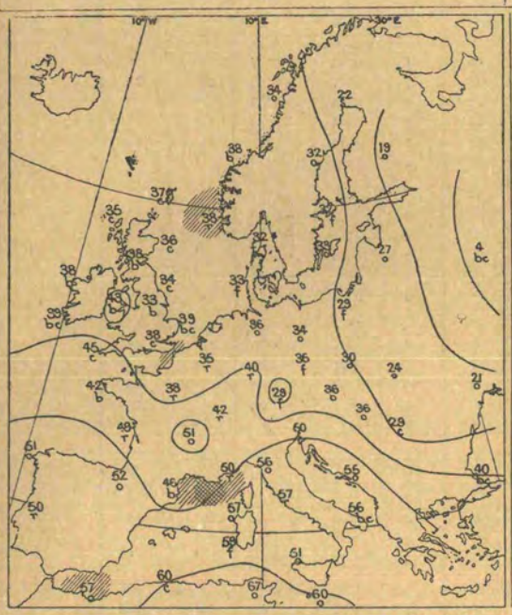
Wind light and anticyclonic in Russia; strong Southerly over the Baltic; moderate Northerly to Westerly in Scotland; Southerly to Westerly in Spain; South-Easterly in the west of France, and Easterly to North-Easterly in the Channel. Freshening from North-East in the Channel later, but falling almost calm in the north; backing to North-Eastward over the north-west of France, and veering round to West and North-West in Spain and Portugal.

Barometer remaining highest (30·1 ins. to 30·8 ins.) over Russia, lowest over the Atlantic coasts of Europe. The depression off the Norwegian coast moving northwards later, while that over the north-west of Spain advanced east-north-eastwards towards the south-west of France. Barometer rose over the British Islands as these changes took place, and a high-pressure area began to spread over the United Kingdom from the Atlantic.

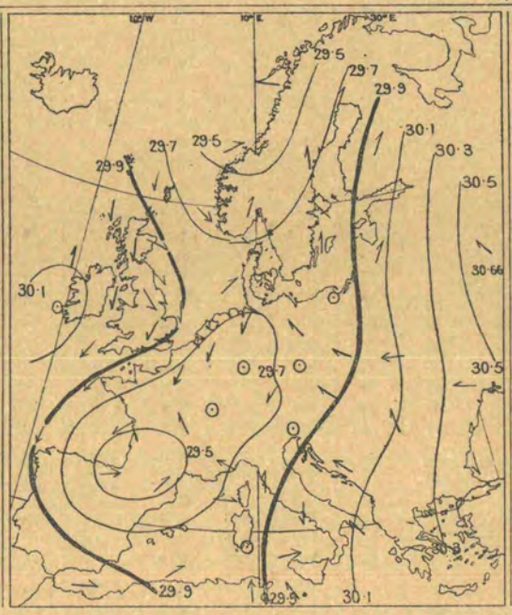
II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 11th March.

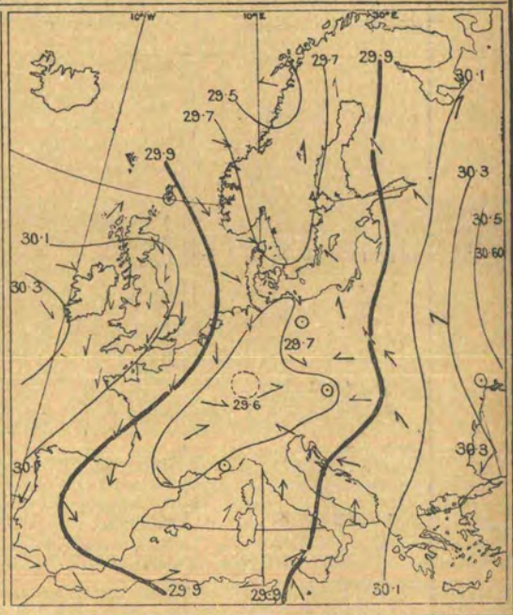
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather fine over the greater part of our Islands, as well as in Central Russia, cloudy or overcast elsewhere, with heavy rain at many of the French and Italian stations, and fog over Denmark and Germany. Snow falling at Haparanda and Helsingfors. Rain falling later in the extreme north-west of our Islands, and snow at several of the Swedish stations.

Temperature very low over Central Russia (Moscow – 4° Faht.); considerably below the freezing point in other parts of that country; slightly below 32° in Austria, South Germany, and the central parts of England and Ireland. Above 55° at most of the Mediterranean stations, and above 60° in Tunis. Frost occurring at night over Central England.

Wind moderate Northerly in the north of our Islands, and fresh North-Easterly over the south of England and the north of France. Light South-Westerly or Westerly over Algeria and the south of France. Easterly over Austria and the south of Russia; Southerly over Sweden, Finland, and Denmark. Subsequently backing to the South-Westward or Westward in the extreme north and north-west of the United Kingdom.

Barometer highest, 30·6 ins. and upwards, over Central Russia, but high, 30·1 ins. and upwards, in the west and south of Ireland. Lowest, 29·4 ins. and less, in a shallow depression lying off the north-west of Norway; low, 29·5 ins. and less, in a somewhat deeper disturbance lying over the south of France. Barometer rising in our Islands, as well as in Spain and Algeria, falling elsewhere. Depression over south of France subsequently travelling north-eastwards and filling up, but new disturbance approaching the north-west of Scotland.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⪢⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During this week barometrical pressure has remained highest over Russia; depressions have reached various parts of the western coasts from the Atlantic and have, as a rule, moved in a north-easterly direction. The first system reached Scotland on Tuesday, and, as its movement was sluggish, did not disappear until the 8th. The second arrived at the mouth of the Bristol Channel on the 7th, and, on filling up over England during the succeeding night, was followed rapidly by the third; this struck the southern coasts of Devon and Cornwall early on the 8th, and passed thence in a north-easterly and northerly direction, and reached Norway on the 10th. A fourth (shallow) system approached the north-west of Spain early on the 10th, reached the south-west of France on the 11th, and passing north-eastwards, filled up near the Franco-German frontier on the 12th. The rainfall which accompanied the depressions of the 7th to 10th was heavy, and, together with the snow which had fallen previously, caused deep floods in the river valleys over the western and midland counties of England,

III.—DATA from which the SUMMARY on page 55 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ℌ	44	27	40·7	33·3	36·9	− 2·0	0	36	6	0·44	−0·27	*	*
	Stornoway ℌ	47	30	44·0	31·9	37·8	− 2·1	6	36	7	0·77	−0·13	26·0	34
	Wick ℌ	45	27	42·7	30·7	36·5	− 2·4	2	39	5	0·45	−0·02	*	*
	Lairg ℌ ☆	45	21	40·7	27·9	34·1	− 3·8	0	55	3	0·21	−0·49	*	*
	Glencarron ☆	47	21	43·0	29·3	36·0	− 1·7	3	44	7	2·12†	?	23·8	31
	Fort Augustus ☆	47	26	43·9	31·6	37·6	− 1·0	5	37	4	0·73†	?	*	*
1. SCOTLAND, E.	Nairn ℌ	47	22	44·4	30·1	37·0	− 2·7	7	42	3	0·12	−0·28	*	*
	Aberdeen ℌ	44	10	40·7	26·1	33·2	− 5·7	0	62	4	0·35	−0·20	20·4	26
	Braemar ℌ ☆	41	10	38·5	26·3	32·2	− 3·6	0	69	6	0·18	−0·42	23·5‡	31‡
	Ochtertyre ☆	51	25	45·1	30·1	37·4	− 0·4	9	42	4	0·33	−0·42	*	*
	Leith ℌ	52	23	45·3	31·1	38·0	− 2·8	9	39	2	0·05	−0·27	*	*
	Marchmont ☆	46	18	41·3	28·4	34·7	− 3·6	0	51	3	0·63	+0·02	24·5	32
2. ENGLAND, N.E.	Alnwick Castle ℌ	46	28	41·0	32·4	36·6	− 2·6	0	38	4	0·56	+0·06	*	*
	Durham ℌ	49	23	41·5	30·4	35·8	− 3·7	0	43	4	0·93	+0·46	26·1	33
	Shields ℌ	48	15	41·7	29·7	35·5	− 4·6	0	46	2	0·71	+0·33	*	*
	Scarborough ℌ	44	25	40·2	31·1	35·6	− 4·1	0	45	4	1·44	+1·03	23·8‡	30‡
	York ℌ	48	24	42·7	31·0	36·7	− 3·5	2	38	4	1·30	+0·90	21·5	28
	Spurn Head ℌ	44	28	41·1	32·0	36·4	− 3·6	0	39	3	1·10	?	*	*
3. ENGLAND, E.	Hillington ℌ	53	19	45·4	30·5	37·7	− 2·5	10	41	3	0·78	+0·39	24·6	32
	Yarmouth ℌ	46	26	41·9	31·6	36·6	− 4·3	0	38	2	0·71	+0·26	*	*
	Geldeston ℌ	51	22	45·0	31·5	38·1	− 2·8	8	38	2	0·48	+0·12	27·6	35
	Cambridge ℌ	53	18	47·7	28·3	37·7	− 3·1	16	50	3	0·56	+0·24	24·8	31
	Rothamsted ℌ	51	24	45·6	30·9	38·0	− 2·9	10	40	3	0·98	+0·56	*	*
	Ingatestone ℌ	52	24	45·7	30·6	37·9	− 3·9	10	41	3	0·78	+0·46	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall) ℌ	47	28	42·0	30·4	36·0	− 5·0	0	42	3	1·68	+1·31	23·1‡	30‡
	Loughborough ℌ	48	23	44·4	29·7	36·8	− 4·0	7	43	3	2·87	+2·52	25·5‡	33‡
	Cheadle ℌ	45	25	41·1	30·1	35·4	− 4·4	0	46	5	1·73	+1·21	*	*
	Churchstoke ℌ	47	24	42·2	29·0	35·4	− 5·2	1	44	3	1·42	+0·94	23·9	31
	Hereford ℌ	48	23	43·7	29·4	36·3	− 5·0	5	44	5	1·92	+1·51	*	*
	Cirencester ℌ	49	25	45·0	29·0	36·8	− 4·2	8	46	3	2·36	+1·87	22·2	28
	Oxford ℌ	51	26	47·0	31·4	39·0	− 2·6	14	39	3	1·04	+0·68	21·2	27
5. ENGLAND, S.	London ℌ	54	24	47·6	32·1	39·6	− 2·4	16	37	3	0·60	+0·27	20·7‡	26‡
	Strathfield Turgiss ℌ	52	25	46·9	31·5	39·0	− 2·8	14	39	4	0·81	+0·46	*	*
	Dungeness ℌ	49	23	44·1	33·4	38·6	− 4·3	6	31	4	0·78	+0·35	*	*
	Hastings (St. Leonard's) ℌ	50	28	44·9	34·7	39·7	− 2·8	8	27	4	1·00	+0·57	25·7	33
	Southampton ℌ	53	25	48·3	33·4	40·6	− 1·9	18	33	5	1·46	+0·96	27·9	35
	Hurst Castle ℌ	50	32	45·4	36·9	41·0	− 2·0	10	19	5	0·96	+0·50	*	*
	Stowell ℌ	51	25	45·8	33·4	39·4	− 2·4	11	31	5	1·25	?	27·8‡	35‡
6. SCOTLAND, W.	Laudale (Loch Sunart) ☆	49	28	44·8	32·6	38·5	− 1·7	8	33	6	1·66†	−0·16	*	*
	Glasgow ☆	46	30	42·2	32·2	37·1	− 3·1	1	34	5	0·47	−0·14	23·4	37
	Ardrossan ☆	48	26	44·9	33·0	38·8	− 1·5	8	32	4	0·32	−0·30	*	*
	Glenlee ☆	47	26	41·2	29·9	35·4	− 3·8	0	46	5	1·82	?	*	*
	Douglas (Isle of Man) ☆	47	32	44·8	34·4	39·5	− 2·4	8	28	3	0·60	−0·09	29·3	38
7. ENGLAND, N.W.	Newton Reigny (Penrith) ℌ	46	25	41·1	30·7	35·8	− 3·7	0	43	4	1·34	+0·74	24·9	32
	Barrow-in-Furness ℌ	47	27	42·7	33·0	37·7	− 4·2	2	31	5	0·41	−0·08	*	*
	Stonyhurst ℌ	44	27	40·8	31·4	36·0	− 4·3	0	42	5	0·70	−0·11	22·9	29
	Blackpool ℌ	47	29	44·2	32·6	38·2	− 3·7	6	33	2	0·37	−0·13	26·9	34
	Manchester ℌ	45	25	41·8	31·1	36·3	− 4·7	0	40	5	1·04	+0·49	*	*
	Liverpool Obsy (Bidston) ℌ	45	28	42·3	32·9	37·5	− 4·2	1	31	4	0·85	+0·45	*	*
	Llandudno ℌ	47	26	44·4	34·3	39·2	− 3·8	7	28	3	0·31	−0·15	21·4	27
	Holyhead ℌ	48	30	45·0	36·6	40·7	− 2·7	8	20	5	0·41	−0·09	*	*
8. ENGLAND, S.W.	Llandovery ℌ	49	24	45·1	30·0	37·3	− 5·4	9	42	7	1·73	+0·83	*	*
	Pembroke ℌ	47	29	44·9	35·7	40·2	− 4·2	8	23	5	0·67	+0·05	24·4	31
	Arlington (N. Devon) ℌ	49	29	43·7	31·7	36·5	− 5·3	5	29	5	2·44	+1·59	*	*
	Cullompton ℌ	53	25	47·8	32·8	40·1	− 2·4	16	35	4	2·10	+1·48	29·5	37
	Falmouth ℌ	52	34	48·0	37·1	42·4	− 2·2	23	14	6	2·71	+1·91	32·3	41
	Plymouth ℌ	51	31	47·6	34·7	41·0	− 3·1	16	28	5	3·06	+2·46	31·0	39
	Prawle Point ℌ	51	32	47·3	37·0	42·0	− 1·7	15	14	6	0·88	?	*	*
9. IRELAND, N.	Malin Head ☆	47	32	46·0	36·4	41·1	+ 0·1	11	22	4	0·41	?	*	*
	Londonderry ☆	50	32	47·4	34·3	40·7	− 0·3	15	30	6	0·44	−0·20	*	*
	Mullaghmore ☆	50	34	47·9	35·4	41·5	− 0·3	17	26	6	0·20	−0·52	*	*
	Belmullet ☆	51	34	47·6	35·9	41·6	− 2·8	16	24	7	0·44	?	*	*
	Markree Castle ☆	51	24	47·2	30·9	38·8	− 2·5	15	41	6	0·46	−0·03	32·8	43
	Brookeborough ☆	49	24	46·6	29·1	37·6	− 2·4	13	47	3	0·25	?	*	*
	Armagh ☆	51	29	47·9	32·2	39·8	− 2·0	17	37	4	0·38	−0·12	34·3	44
	Donaghadee ☆	48	34	45·6	35·3	40·3	− 2·1	10	25	4	0·48	0·00	*	*
	Edgeworthstown ☆	50	27	48·0	29·9	38·7	− 1·6	17	45	2	0·49	−0·21	*	*
10. IRELAND, S.	Dublin ☆	50	32	47·6	34·6	40·9	− 1·7	16	28	3	0·04	−0·44	36·3	47
	Parsonstown ☆	52	25	48·9	30·0	39·2	− 2·8	19	45	4	0·73	+0·20	40·1	61
	Kilkenny ☆	51	24	48·3	30·1	38·9	− 2·9	18	44	2	0·16	−0·39	*	*
	Waterford ☆	51	25	48·9	31·0	39·7	− 4·1	19	42	3	0·31	−0·39	*	*
	Roche's Point ☆	50	33	48·1	35·9	41·8	− 2·6	17	24	2	0·75	−0·12	*	*
	Valencia ☆	54	33	50·6	37·0	43·6	− 1·7	32	14	4	0·72	−0·28	48·2	61
	Killarney ☆	52	24	49·0	29·0	38·7	− 5·1	20	48	4	0·72	?	*	*
	Foynes ☆	50	31	47·6	35·4	41·2	− 1·7	16	25	4	0·62	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's) ☆	54	39	49·4	40·6	44·9	− 1·4	26	4	6	1·85	+1·30	*	*
	Jersey ☆	52	29	48·6	38·3	43·3	+ 0·4	25	10	5	0·80	+0·25	31·1	39

Stations marked ℌ are in connection with the Royal Meteorological Society, and those marked ☆ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, and Laudale being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the first and second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 11.] *Third Series.* WEEK ENDING MONDAY, 18TH MARCH, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861-80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866-85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881-85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 60.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	53	26	45·0	35·8	40·3	1 above.	8	− 1	23	− 9	55	− 29	404	+ 62
	1. SCOTLAND, EAST	59	32	48·9	36·4	42·4	4 above.	26	+10	16	−16	89	− 32	438	+ 47
	2. ENGLAND, N.E.	56	29	49·1	35·9	42·3	2 above.	28	+12	17	−11	70	− 57	413	+ 62
	3. ENGLAND, EAST	56	25	47·9	32·6	40·0	1 below.	17	− 5	35	+ 6	58	−103	528	+161
	4. MIDLAND COUNTIES	57	26	50·3	36·2	43·1	2 above.	32	+ 8	16	−12	83	− 93	473	+114
	5. ENGLAND, SOUTH	57	24	49·9	34·4	42·0	1 below.	22	− 4	21	− 1	83	−103	399	+118
Principal Grazing, &c. Districts	6. SCOTLAND, WEST	53	35	49·4	40·4	44·8	4 above.	26	+11	4	−18	110	−224	305	+ 19
	7. ENGLAND, N.W.	53	31	47·5	39·0	43·1	1 above.	20	+ 3	8	−13	74	− 61	315	+ 35
	8. ENGLAND, S.W.	59	30	50·1	38·5	44·2	1 above.	30	+ 5	10	− 5	144	− 90	271	+102
	9. IRELAND NORTH	57	35	50·9	42·0	46·3	4 above.	30	+10	0	−21	157	− 22	256	+ 6
	10. IRELAND, SOUTH	59	27	52·5	42·5	47·3	4 above.	37	+ 9	0	−14	229	− 30	189	+ 21
	— CHANNEL ISLANDS	52	29	49·7	40·0	44·7	0 (average).	27	− 1	6	+ 1	230	− 43	75	− 4

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 60.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	6	8	1 less.	59	+5	11·7	+1·1	7	9	120	−10	18	− 1
	1. SCOTLAND, EAST	4	3	2 less.	46	+7	4·1	−2·8	10	12	161	−26	23	− 4
	2. ENGLAND, N.E.	2	1	3 less.	39	0	3·6	−1·4	19	24	158	+18	22	+ 2
	3. ENGLAND, EAST	1	less than ½	3 less.	38	−2	3·2	−1·6	13	16	154	+24	21	− 4
	4. MIDLAND COUNTIES	1	1	4 less.	35	−3	4·8	−1·2	21	26	146	−14	20	− 2
	5. ENGLAND, SOUTH	1	less than ½	3 less.	37	−1	4·3	−1·9	17	21	140	−24	19	− 4
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	5	3	5 less.	48	0	9·2	−3·0	15	19	161	+25	23	+ 4
	7. ENGLAND, N.W.	4	1	4 less.	41	−2	4·8	−2·7	13	16	153	+12	21	+ 1
	8. ENGLAND, S.W.	3	1	6 less.	40	−4	8·1	−2·2	18	22	181	− 2	24	− 1
	9. IRELAND, NORTH	5	2	4 less.	53	+4	7·0	−0·8	7	9	143	−14	19	− 3
	10. IRELAND, SOUTH	3	3	4 less.	47	−1	7·9	−1·7	17	20	194 *	+10	27	+ 2
	— CHANNEL ISLANDS	2	1	5 less.	49	+1	6·1	−1·8	33	40	230	−12	31	− 1

General Remarks.

Weather has been very cloudy or dull in nearly all parts of the Kingdom. Slight falls of rain have occurred in the west and north, but in most of the English districts the condition has been dry.

Temperature has continued rather below the mean in "England, E." and "England, S." and has about equalled the normal in the "Channel Islands", but in all other districts it has been above; in Ireland and the east and west of Scotland an excess of 4° is shown. The highest of the maxima were generally recorded on the 13th, when they ranged from 53° to 59° over Great Britain, and 57° to 59° in Ireland. The lowest of the minima, which were registered on the 16th over our south-eastern counties and on various dates elsewhere, ranged from 24° in "England, S." to 35° in "Scotland, W." and "Ireland, N." A thermometer exposed on the grass at Ingatestone fell to 10° during the early morning of the 16th.

Rainfall has been less than the mean in all districts; over England the fall has been very slight.

Bright sunshine has been much less prevalent than it was last week, the percentage of the possible amount of duration having ranged from 9 to 19 in Scotland, from 9 to 20 in Ireland, and from 16 to 26 in England. In the "Channel Islands", however, the percentage was 40.

Barometer and Wind.—During the greater part of the period the barometer was highest off our south-western and western coasts, lowest in the north-east and east. On the 15th, however, a high pressure band lay completely over the Kingdom, but towards the end of the period the barometer fell briskly and the highest pressures passed south-eastwards to France and Germany. North-Westerly winds were generally experienced over the United Kingdom until the 15th, when a South-Westerly current set in over our northern coasts and gradually extended (at first as a Westerly, and subsequently as a Southerly, breeze) over the whole country. No gales were felt on any part of our coasts excepting over the north and east of Scotland on the 13th, when a moderate to fresh gale from the North-Westward prevailed.

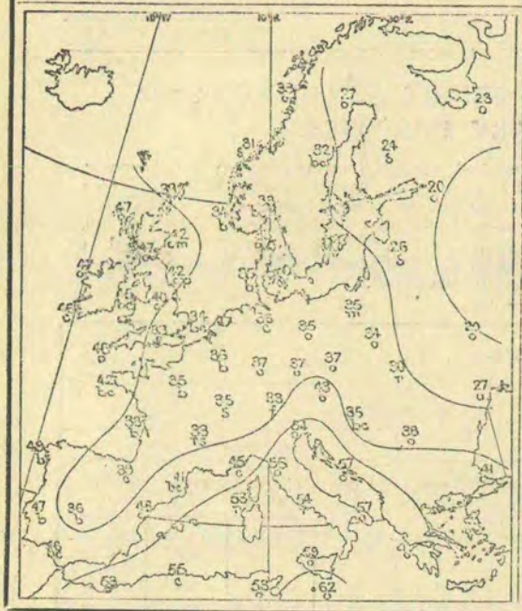
* This value has been altered owing to the receipt of further information.

A 57997. 350.—3/89. Wt. 37. E. & S.

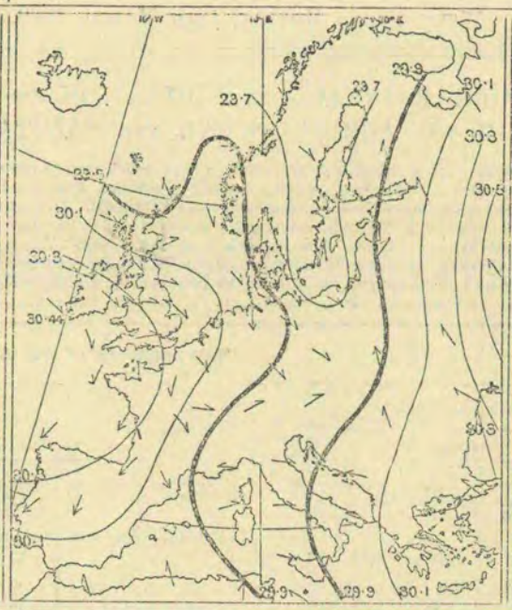
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 12th March.

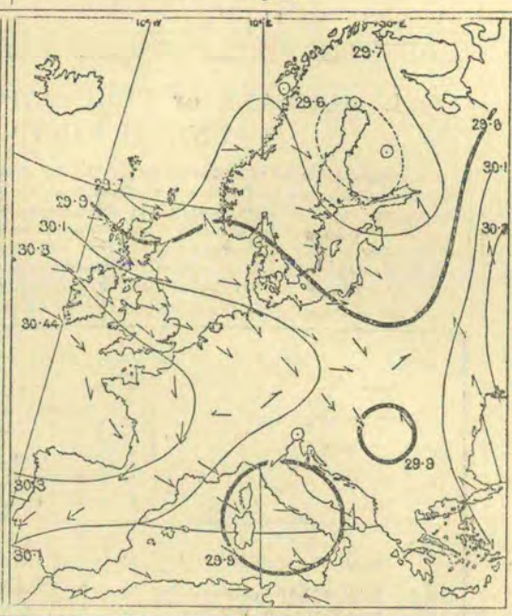
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fine in Spain and the west and south of France, as well as over Central Russia and the south of Norway. Cloudy or overcast elsewhere, with snow over Finland and the Baltic, and rain in the Shetlands and the south of England, as well as at Sanguinaire, Rome, and Pesaro. Heavy fall of snow and rain occurring later in Austria, and showers falling in most parts of the United Kingdom.

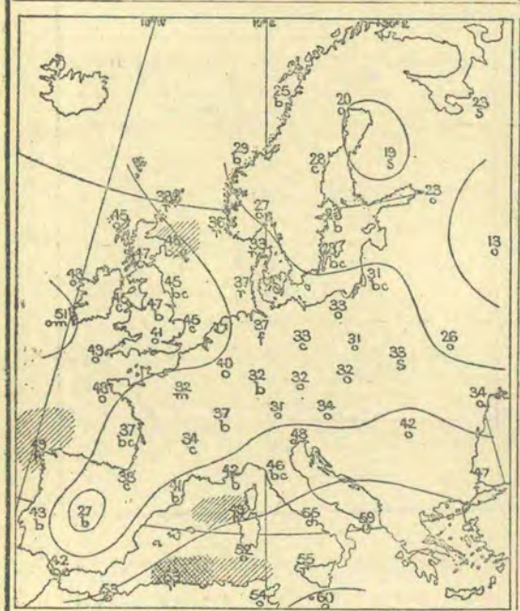
Temperature very low over Central Russia (Moscow −1° Faht.); considerably below the freezing point at nearly all the Russian stations; slightly below 32° in Scandinavia. Above 45° in the west and north of our Islands, and above 55° at several of the Mediterranean stations, highest reading of all being 62° at Malta. Subsequently rising above 50° in many parts of the United Kingdom, and reaching 58° at Aberdeen.

Wind light or moderate from the Westward over the northern parts of the United Kingdom, and from the North-Westward on our southern coasts, but fresh from the Northward in most other parts of Western Europe. Southerly over Russia and also in Algeria, but chiefly Westerly in Italy. Subsequently veering to the North-Westward in the north and east of Scotland, and increasing to a moderate or fresh gale.

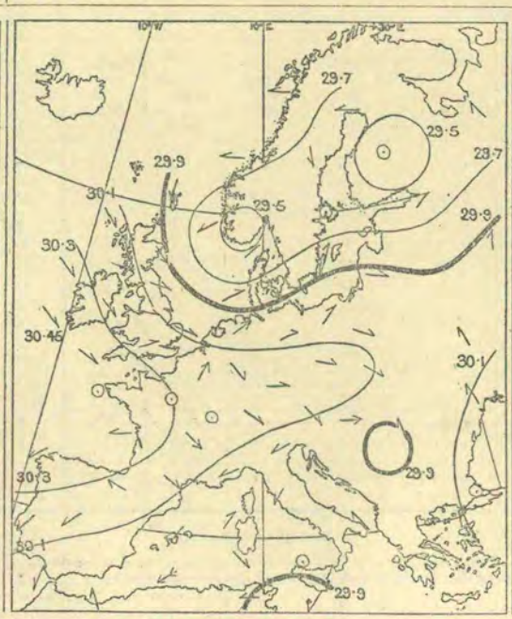
Barometer highest, 30·5 ins. and upwards, overCentral Russia, but high, 30·4 ins. and upwards, in an anticyclone lying to the south-westward of our Islands. Lowest, 29·6 ins. and less, in a depression lying over Lapland, but shallow trough of low pressure extending thence across Sweden and Germany to the south-east of France. New depression subsequently approaching our northern coasts from the north-westward, and barometer falling briskly in the Shetlands.

Wednesday, 13th March.

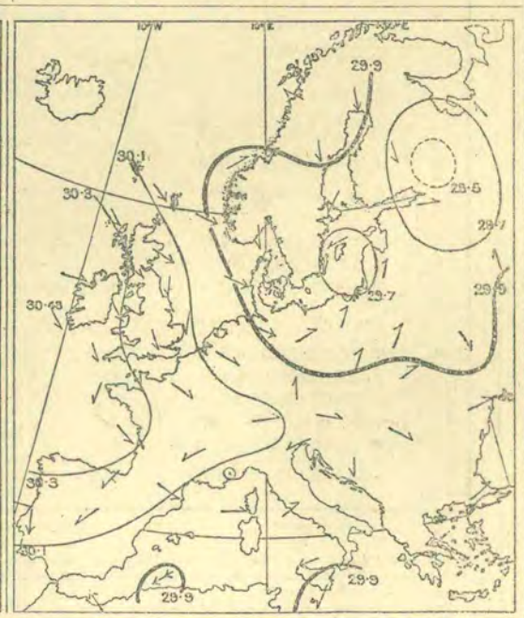
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fine in the east of Great Britain, the west of Norway, and the south of Sweden as well as in Spain and the south of France. Cloudy or overcast elsewhere, with rain in the Shetlands, Denmark, and the south of Norway, as well as in Algeria. Snow falling over Northern Russia. Snow falling later over the Baltic provinces and heavy rain in Algeria; the largest amounts being 1·4 ins. at Aumale and 1·3 ins. at Algiers.

Temperature considerably below the freezing point over Russia and the north of Sweden (lowest reading being 11° at Kharkov); slightly below 32° over Norway, the south of Sweden, and the central parts of Germany and Spain. Slightly above 50° in the south of Ireland, and considerably above that point over the Mediterranean, highest reading of all being 60° at Malta. Maximum readings above 55° in the extreme south of England.

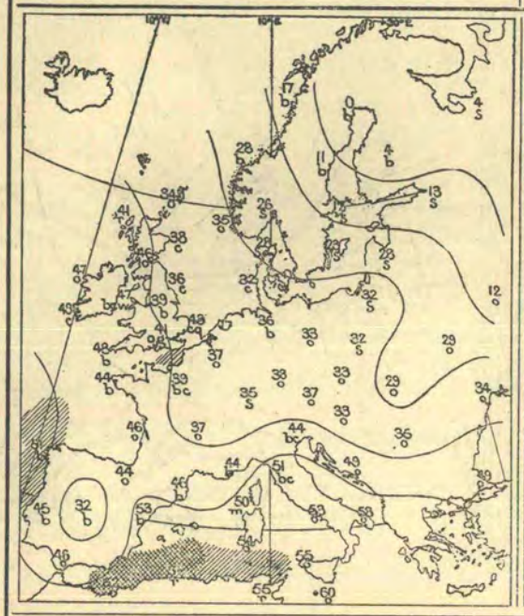
Wind North-Westerly in our Islands, strong to a gale in the east of Scotland; moderate to strong from the South-Westward over the Netherlands, North Germany, and Denmark, and Easterly in Norway. Chiefly North-Easterly in Southern Europe; cyclonic circulation of light winds reported over Finland. Subsequently veering to the North-Westward on the eastern shores of the North Sea.

Barometer highest, 30·4 ins. and upwards, in an anticyclone lying to the south-westward of our Islands; high, 30·2 ins. and upwards, over the southern parts of Central Russia. Lowest, 29·5 ins., in a well marked depression lying over the south of Norway, and also in a shallow system lying over Finland. Former disturbance subsequently moving south-eastwards, but latter remaining almost stationary.

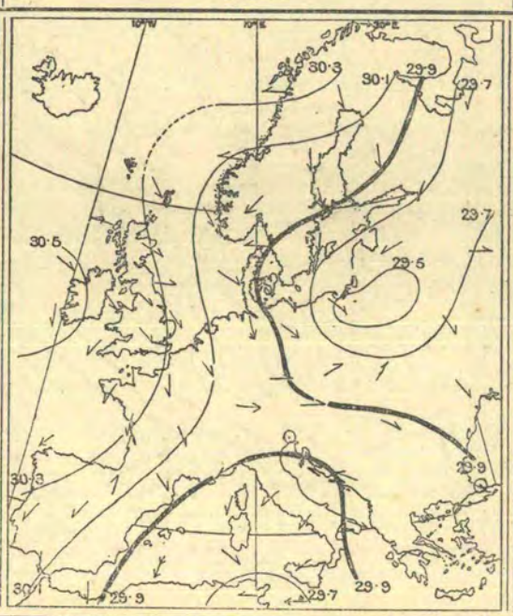
II.—SUMMARY OF WEATHER OVER EUROPE

Thursday, 14th March.

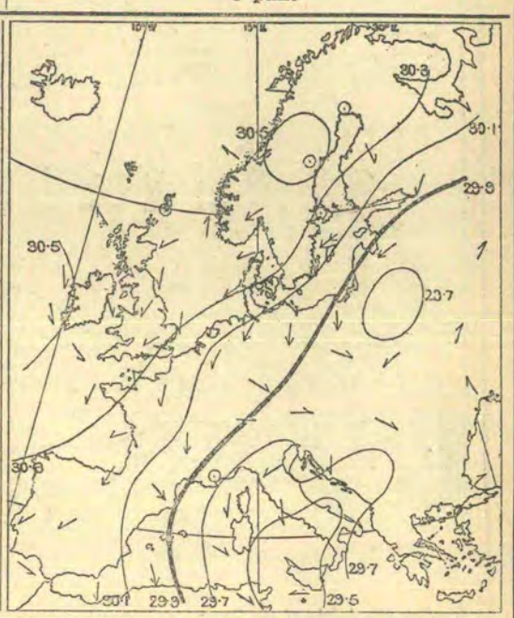
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fine over England, the south of Ireland, and the northern parts of Scandinavia, as well as in Spain, the south of France, and Northern Italy. Cloudy elsewhere, with snow over the Baltic and Gulf of Finland, and heavy rain in Algeria. Slight rain falling later in the west and north of our Islands, and large amounts over Southern Italy.

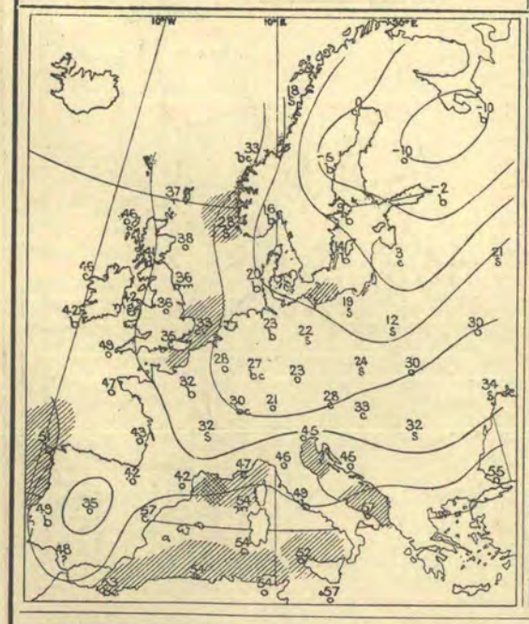
Temperature very low (zero to 4° Fahr.) over Lapland, Finland, and Northern Russia; considerably below the freezing point over Sweden and Central Russia; slightly below 32° in Norway and Denmark. Above 45° in the western parts of the United Kingdom, and above 50° at most of the Mediterranean stations, highest reading of all being 60° at Malta. Frost occurring over England at night.

Wind light to fresh from the Northward over Western and Northern Europe; North-Westerly or Westerly over Germany; South-Westerly in Poland and Austria; Easterly or North-Easterly over the Baltic Provinces and the Gulf of Finland, as well as at most of the Mediterranean stations. Subsequently becoming variable over the north of our Islands and the west of Norway.

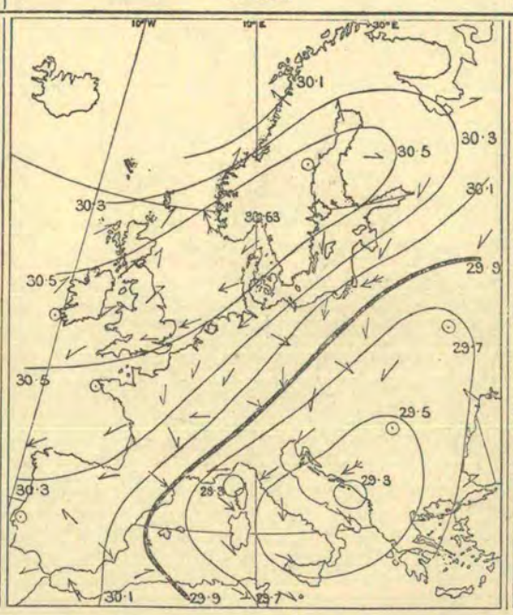
Barometer highest, 30·5 ins. and upwards, over the west of Ireland; high, 30·3 ins. and upwards, over the north of Scandinavia. Lowest, 29·5 ins. and less, in a depression lying over Prussia and Western Russia; 29·6 ins. and less in another disturbance lying to the eastward of the White Sea; and 29·7 ins. and less in a third system lying over Tunis and the adjacent parts of the Mediterranean. All three disturbances subsequently moving eastwards or south-eastwards.

Friday, 15th March.

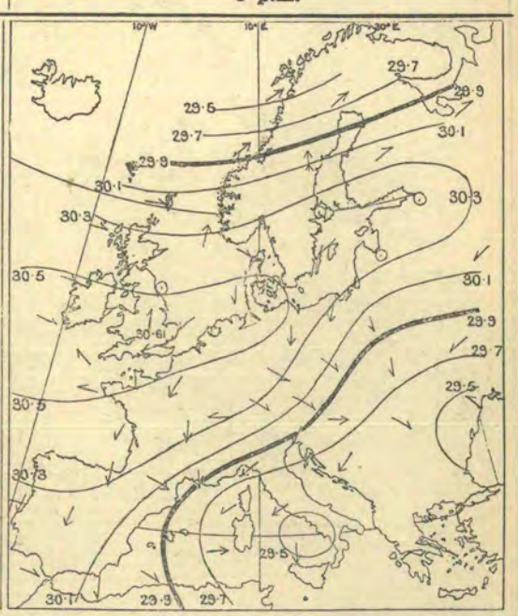
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fine in the south of our Islands, as well as in Sweden, Denmark, Northern Russia, Spain, and the south of France. Cloudy or overcast elsewhere, with rain at several of the Scotch stations, and snow in Norway, Eastern Germany, Poland, and some parts of Austria and Russia. Sky clearing later in many parts of our Islands and France, but heavy rain falling in the west of Norway, as well as at Rome.

Temperature very low (zero to − 10° Fahr.) over the northern parts of Sweden and Russia; considerably below the freezing point in Denmark, Germany, and Central Russia; slightly below 32° over Central France. Above 45° in the extreme north-west and south-west of our Islands, and above 50° at the Mediterranean and Spanish coast stations, highest reading of all being 57° at Barcelona, Brindisi, and Malta. Sharp frost occurring over Central England at night.

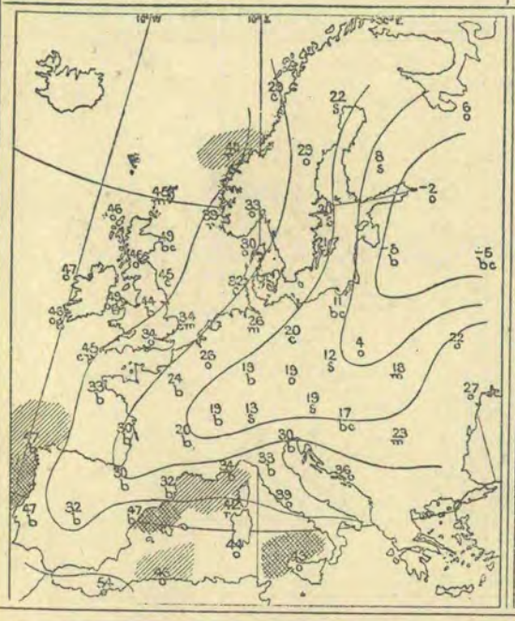
Wind light from the South-Westward in Scotland, and moderate to strong from the Southward in the west of Norway. North-Easterly in most other parts of Europe, with a gale at some of the Baltic ports, but moderate to strong from the North-Westward over the western ports of the Mediterranean. South-Westerly winds subsequently becoming general over North-Western Europe, and blowing a gale in the west of Norway.

Barometer highest, 30·40 to 30·65 ins., in a long and broad anticyclonic band extending south-westwards from Finland across Scandinavia, the North Sea, and Great Britain to the extreme west of our Islands. Lowest, 29·3 ins. and less, in a depression lying over the Adriatic, but low, 29·5 ins. and less, in another disturbance lying over the Gulf of Genoa, and somewhat low, 29·8 ins. and less, in a third system lying over the Balearic Islands. Large depression advancing later to the north of Scandinavia, and brisk fall of barometer taking place over Northern Europe.

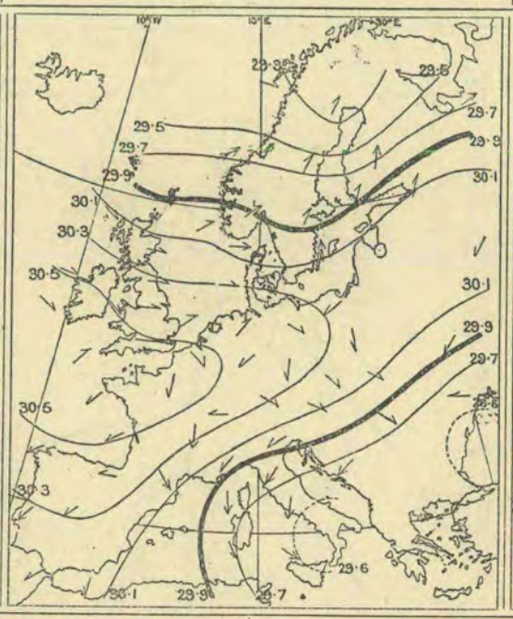
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 16th March.

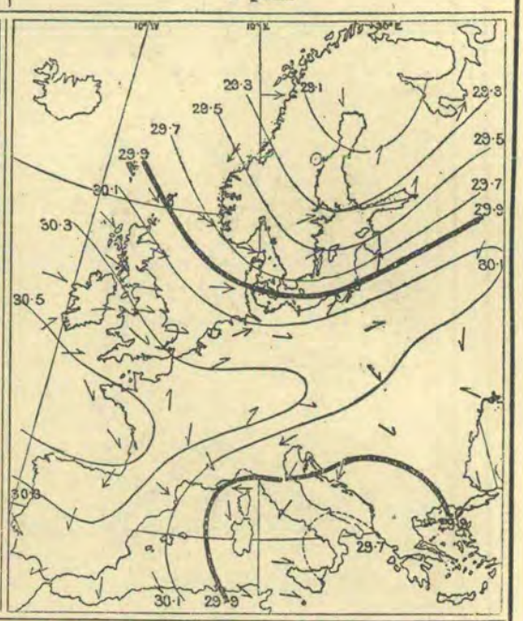
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather very bright at the Spanish and French stations, in Switzerland, the north of Italy, and at Trieste, as well as in the Baltic provinces of Russia; dull and unsettled elsewhere, with rain in Norway, slight occasional falls in the north and west of the British Islands as well as at some of the Mediterranean stations; snow in many parts of Central Europe and also at Aumale (Algeria); not much change later.

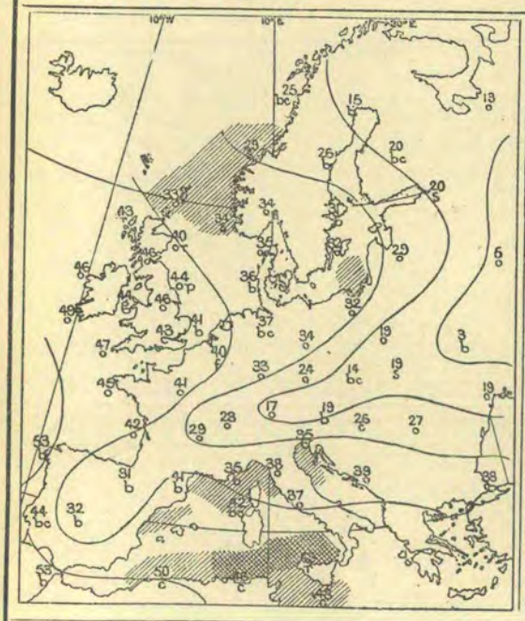
Temperature fallen fast over Southern, Central, and Eastern Europe; risen rapidly in the north; very hard frost prevailing at the Russian stations and considerable frost over Central Europe; slight frost over Central Spain. Morning readings decidedly below zero (Faht.) over Central Russia, while the only readings exceeding 50° were over Western Algeria. Thermometer falling a little in the north of our Islands later.

Wind Westerly (South-West to North-West) over the British Isles, North Sea, and Norway, and blowing hard at Christiansund; Southerly, light to strong over the Baltic and Gulf of Bothnia; Northerly over Central Europe, North-Westerly to North-Easterly elsewhere. Strong "mistral" in the south of France and north-east of Spain. Wind freshening over the British Islands later, and veering to North-West.

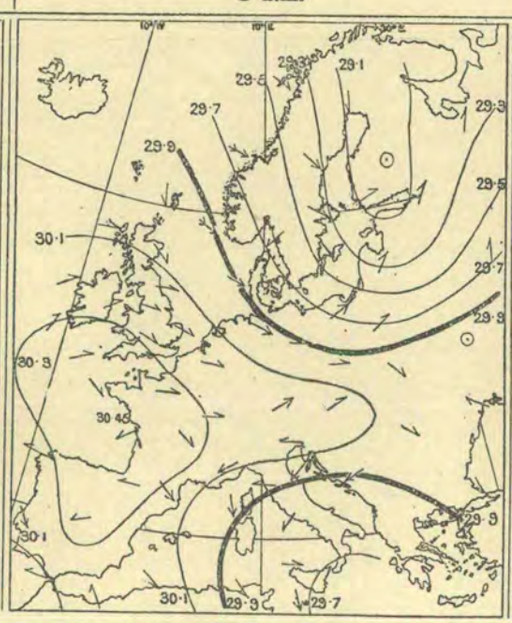
Barometer falling very quickly over North-Western and Northern Europe, rising at the southern and central stations; highest readings (30·4 ins. to nearly 30·6 ins.) formed over the western countries, lowest (29·6 ins. and less) in a depression over Sicily and the southern half of Italy, and (29·2 ins. and less) in another depression, advancing over Lapland from the north-westward. Northern depression growing deeper later, that over Southern Italy moving south-eastwards.

Sunday, 17th March.

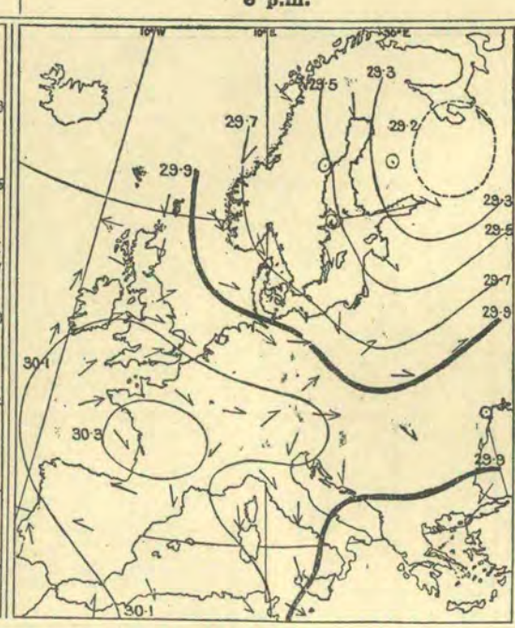
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine and bright over South-Western and Southern Europe, and in the south of Russia, dull and unsettled elsewhere, with rain in the north of the British Islands, snow and sleet in Norway, as well as at Helsingfors and Lemberg. Slight falls of rain or snow in several localities later, but no general fall reported.

Temperature falling in the north, rising over Western and Central Europe and in Central and Northern Russia, but still low in the latter regions. Frost disappearing from North-Western Europe, but still holding firmly over Russia, Austria, South Germany, and some eastern parts of France. Thermometer remaining very low on the northern shores of the Mediterranean.

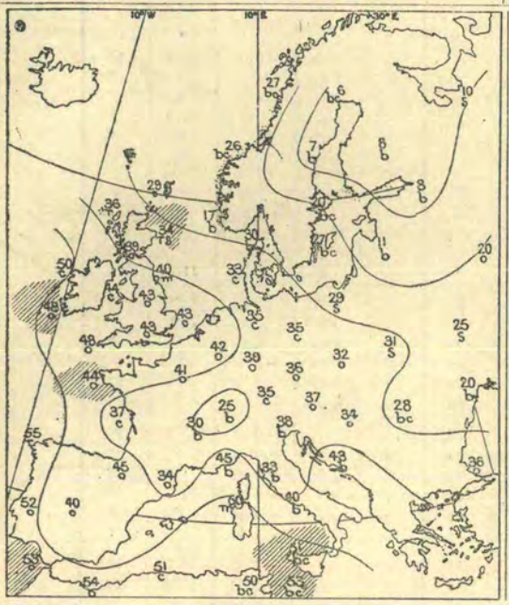
Wind North-Westerly, strong to a gale, over Scandinavia and the eastern shores of the North Sea. South-Westerly over the Baltic Provinces and Gulf of Finland, as well as on the shores of the White Sea; Westerly to South-Westerly over Central Europe and the greater part of the British Islands, and backing Southwards in the extreme west; North-Easterly over the Mediterranean and Spain; North-Westerly to Northerly in Algeria and at Malta. Southerly winds freshening in the west of our Islands later, and Easterly breezes setting in over the north of Scotland.

Barometer rising decidedly over Southern and South-Eastern Europe, falling in the north and north-west. The high pressure system in the west, and the "Col" extending to the eastward, both moving in a southerly direction. The depression over Northern Europe moving south-eastwards and growing less deep, but some new disturbance approaching our western coasts from the Atlantic.

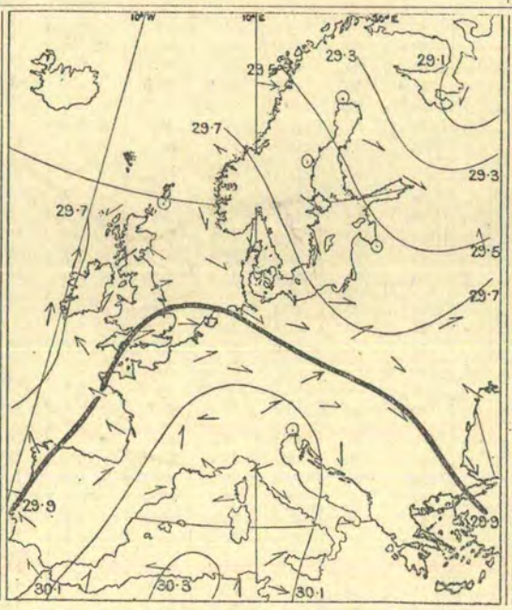
II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 18th March.

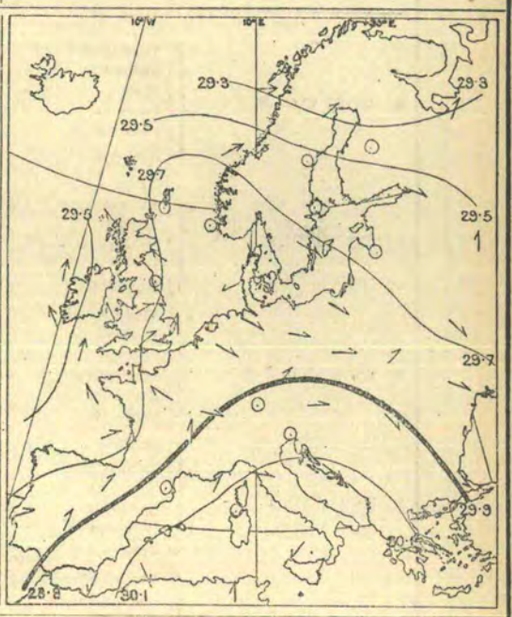
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine over South-Eastern and Southern Europe, as well as over Russia and Scandinavia, dull and unsettled in the north-west, with rain in the northern parts of the British Islands and an unsettled appearance at the other stations; snow in Poland. Rainfall considerable over the western parts of our Islands, France and Spain later, but snowfalls trifling and local over the Eastern and Central Countries.

Temperature showing a further increase in the south-west, south, and south-east, as well as over Central and Southern Russia, but inclined to give way a little elsewhere. Still low generally over the Continent for the time of year, but frost disappearing from the greater part of Austria, Germany, and the south-east of France. Thermometer rising to upwards of 60° in the west of France later, and to more than 50° in several parts of our Islands.

Wind Southerly to South-Easterly over the British Islands, France, and Spain generally, North-Westerly over Scandinavia and the Baltic, Westerly over Central Europe. Very variable and light over the Southern Countries, Southerly in Algeria. The Southerly wind subsequently spreading Eastwards across the North Sea, but not increasing much in force over the British Islands, France, or Spain.

Barometer rising somewhat over Russia and the Mediterranean, still falling over Western and North-Western Europe. Very quickly in the West of Ireland. Highest pressures now found over the Mediterranean, with a ridge spreading northwards over Germany and the North Sea; lowest over the north of Russia and off our western coasts. Barometer continuing to fall over the British Isles and Western Europe all day, but gradients not becoming steep; rising over Russia.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

At the commencement of the week the high pressure system which had appeared off our western coasts on 11th March was spreading steadily in an easterly direction, while that noticed over Russia was passing in a similar direction out of the area of our observation. North-Westerly and Northerly winds were consequently becoming more and more prevalent over Europe, while the Southerly breezes in Russia were dying down. Temperature, however, was increasing over the United Kingdom, and the weather was inclined to clear. After Friday (15th) the high pressure system—which then spread as a broad band from Ireland across the North Sea to the Baltic and Finland—began to break up quickly, and to move southwards and south-eastwards. Westerly to Southerly winds soon took the place of the Northerly breezes previously experienced, and temperature rose generally (but not decidedly in Russia). At the close of the week Southerly winds were blowing over the whole of Western Europe, and were spreading eastwards towards Germany and the Baltic; pressure had become highest over Algeria and the Mediterranean, and was falling quickly and steadily over the United Kingdom and its neighbourhood.

CORRECTED Temperature Values for Dungeness for week ending February 18th, 1889.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
February 18, 1889	Dungeness	55	11	44·6	23·9	34·3	− 7·7	7	66	—	—	—	—	—

III.—DATA from which the SUMMARY on page 61 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ⚓	47	26	40·6	32·7	36 5	− 2·4	0	39	5	0·55	−0·13	*	*
	Stornoway ⚓	51	33	46·7	39·0	42·7	+ 2·6	18	8	7	0·80	−0·08	10·6	13
	Wick ⚓	51	30	44·9	35·9	40·3	+ 1·4	8	23	6	0·61	+0·16	*	*
	Lairg ⚓	50	29	44·4	33·4	38·7	+ 0·2	7	30	7	0·46	−0·24	*	*
	Glencarron ⚓	49	32	45·3	36·5	40·8	+ 2·3	9	21	7	2·01†	?	4·0	5
	Fort Augustus ⚓	53	33	47·9	37·5	42·6	+ 3·5	23	13	5	0·27†	?	*	*
1. SCOTLAND, E.	Nairn ⚓	54	32	47·4	37·9	42·5	+ 2·6	21	11	4	0·36	−0·03	*	*
	Aberdeen ⚓	58	33	46·9	36·7	41·7	+ 2·6	14	21	4	0·45	−0·06	12·4	15
	Braemar ⚓	49	32	45·9	34·8	40·2	+ 4·0	11	27	3	0·33	−0·25	5·5‡	7‡
	Ochtertyre ⚓	59	34	52·4	36·7	44·3	+ 5·5	38	15	3	0·26	−0·42	*	*
	Leith ⚓	58	34	51·6	37·1	44·1	+ 3·2	35	14	5	0·20	−0·11	*	*
	Marchmont ⚓	54	32	49·0	35·0	41·8	+ 3·0	20	28	4	0·37	−0·15	11·0	14
2. ENGLAND, N.E.	Alnwick Castle	53	29	48·1	36·3	42·0	+ 2·3	17	16	4	0·31	−0·18	*	*
	Durham	55	30	50·8	35·1	42·6	+ 3·0	33	19	1	0·01	−0·47	18·2	22
	Shields	56	33	50·3	36·3	43·1	+ 3·0	32	16	3	0·06	−0·29	*	*
	Scarborough ⚓	56	31	48·9	36·5	42·5	+ 2·6	27	15	2	0·04	−0·36	? ‡	? ‡
	York	56	30	50·6	35·0	42·6	+ 2·1	34	20	1	0·01	−0·37	20·3	25
	Spurn Head	49	34	45·6	36·1	40·7	+ 0·4	10	22	2	0·02	?	*	*
3. ENGLAND, E.	Hillington ⚓	55	26	49·1	32·5	40·6	+ 0·4	20	37	0	—	−0·35	13·4	16
	Yarmouth	51	29	45·3	33·1	39·0	− 2·0	9	32	2	0·03	−0·37	*	*
	Geldeston	55	25	47·6	33·1	40·1	− 1·0	16	33	2	0·03	−0·32	14·2	17
	Cambridge	56	25	50·9	31·7	41·0	− 0·2	25	40	0	—	−0·30	11·7	14
	Rothamsted	52	26	47·0	33·1	39·8	− 1·4	14	33	2	0·04	−0·34	*	*
	Ingatestone	53	26	47·4	32·1	39·5	− 2·3	15	37	0	—	−0·39	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	55	29	51·0	36·6	43·6	+ 2·5	34	15	0	—	−0·35	15·0‡	18‡
	Loughborough	55	29	51·7	36·4	43·8	+ 2·9	36	16	3	0·06	−0·26	19·2‡	23‡
	Cheadle ⚓	50	30	46·8	35·8	41·1	+ 1·3	13	24	2	0·10	−0·40	*	*
	Churchstoke ⚓	55	29	50·0	37·4	43·5	+ 2·7	30	13	1	0·09	−0·34	23·6	29
	Hereford ⚓	57	30	52·4	38·1	45·0	+ 3·2	37	11	1	0·07	−0·31	*	*
	Cirencester	55	26	50·4	33·8	41·9	+ 0·4	24	33	2	0·03	−0·43	27·8	34
	Oxford	53	31	50·1	35·3	42·5	+ 0·7	32	19	1	0·02	−0·33	19·3	24
5. ENGLAND, S.	London	53	27	49·3	32·9	40·9	− 1·7	20	36	2	0·05	−0·26	7·0‡	9‡
	Strathfield Turgiss ⚓	56	26	52·1	33·8	42·7	+ 0·3	39	23	3	0·04	−0·28	*	*
	Dungeness	54	24	48·0	31·4	39·5	− 3·8	17	40	0	—	−0·42	*	*
	Hastings (St. Leonard's)	55	27	47·2	34·0	40·4	− 2·4	15	39	0	—	−0·41	15·1	18
	Southampton	57	27	52·5	35·4	43·7	+ 0·7	40	18	2	0·04	−0·40	18·8	23
	Hurst Castle	57	32	51·0	37·7	44·2	+ 0·6	33	12	1	0·02	−0·38	*	*
	Stowell ⚓	54	29	49·4	35·6	42·3	+ 0·1	29	18	2	0·10	?	27·8‡	34‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	51	35	48·9	41·5	45·1	+ 4·7	24	1	7	0·76†	−0·89	*	*
	Glasgow	52	37	48·9	39·2	43·9	+ 3·4	25	8	5	0·16	−0·42	14·5	18
	Ardrossan	53	37	50·0	40·4	45·1	+ 4·3	28	4	5	0·19	−0·39	*	*
	Glenlee ⚓	52	35	50·1	39·2	44·5	+ 4·7	29	8	4	0·12	?	*	*
	Douglas (Isle of Man)	53	39	49·2	41·9	45·4	+ 3·1	24	0	3	0·06	−0·59	15·2	19
7. ENGLAND, N.W.	Newton Reigny (Penrith)	52	31	48·8	36·2	42·1	+ 2·2	25	16	4	0·10	−0·42	15·7	19
	Barrow-in-Furness	50	34	46·0	39·0	42·4	0·0	15	8	4	0·16	−0·39	*	*
	Stonyhurst	51	33	47·1	36·9	41·9	+ 1·1	14	21	4	0·23	−0·55	15·4	19
	Blackpool ⚓	48	37	46·0	39·7	42·8	+ 0·3	15	6	3	0·08	−0·41	12·4	15
	Manchester	51	34	47·7	37·4	42·4	+ 1·1	22	13	3	0·12	−0·42	*	*
	Liverpool Obsy (Bidston)	49	36	46·9	39·1	42·9	+ 0·7	19	8	6	0·15	−0·34	*	*
	Llandudno ⚓	51	39	48·0	41·5	44·7	+ 1·3	21	1	5	0·17	−0·28	7·2	9
	Holyhead	53	40	49·7	42·1	45·8	+ 2·1	27	0	4	0·06	−0·44	*	*
8. ENGLAND, S.W.	Llandovery	57	37	51·6	37·9	44·6	+ 1·8	35	11	6	0·16	−0·61	*	*
	Pembroke	51	38	48·0	42·0	44·9	+ 0·2	20	0	4	0·12	−0·44	15·3	19
	Arlington (N. Devon)	51	31	48·9	36·6	42·6	+ 0·4	27	15	4	0·11	−0·66	*	*
	Cullompton ⚓	58	30	52·5	36·0	44·3	+ 1·5	41	17	2	0·07	−0·47	27·5	34
	Falmouth	52	38	49·1	41·8	45·3	+ 0·4	24	1	1	0·10	−0·66	12·3	15
	Plymouth	56	33	50·9	38·1	44·3	− 0·2	32	11	1	0·03	−0·52	16·3	20
	Prawle Point	59	32	49·7	37·0	43·2	− 0·7	29	14	3	0·06	?	*	*
9. IRELAND, N.	Malin Head	49	38	48·1	42·9	45·4	+ 4·0	24	0	5	0·26	?	*	*
	Londonderry	53	40	51·2	43·1	47·0	+ 5·7	35	0	6	0·18	−0·45	*	*
	Mullaghmore	52	38	50·6	43·3	46·8	+ 4·4	34	0	6	0·22	−0·46	*	*
	Belmullet	52	37	50·4	43·9	47·1	+ 2·2	36	0	7	0·43	?	*	*
	Markree Castle	56	39	51·4	42·7	46·9	+ 4·9	34	0	5	0·36	−0·20	7·4	9
	Brookeborough	56	38	51·5	39·8	45·5	+ 5·0	34	6	3	0·24	?	*	*
	Armagh	57	39	52·4	41·2	46·6	+ 4·8	36	2	4	0·13	−0·35	6·9	8
	Donaghadee	54	35	50·4	41·3	45·7	+ 2·8	29	2	5	0·14	−0·31	*	*
	Edgeworthstown	55	37	52·4	39·7	45·9	+ 5·2	37	6	3	0·11	−0·54	*	*
10. IRELAND, S.	Dublin	58	41	52·7	42·9	47·7	+ 4·8	40	0	2	0·23	−0·33	15·0	18
	Parsonstown	58	27	53·0	37·9	45·2	+ 2·9	40	11	4	0·07	−0·45	14·5	18
	Kilkenny	57	38	52·1	41·3	46·5	+ 4·3	34	2	1	0·38	−0·12	*	*
	Waterford	59	41	53·0	42·6	47·7	+ 3·5	40	0	2	0·44	−0·26	*	*
	Roche's Point	57	38	52·1	43·9	47·9	+ 3·4	41	0	1	0·25	−0·59	*	*
	Valencia	55	37	52·3	42·6	47·3	+ 1·6	37	0	4	0·54	−0·42	20·5	25
	Killarney	56	41	52·8	44·6	48·6	+ 4·3	46	0	4	0·43	?	*	*
	Foynes	53	39	51·6	43·9	47·6	+ 3·3	39	0	2	0·15	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	51	42	49·9	44·0	46·9	+ 0·5	34	0	3	0·12	−0·42	*	*
	Jersey	52	29	49·4	36·0	42·5	− 1·0	29	17	1	0·05	−0·47	33·0	40

Stations marked ⚓ are in connection with the Royal Meteorological Society, and those marked S with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, and Laudale being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the first and second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VI. No. 12.] *Third Series.* WEEK ENDING MONDAY, 25TH MARCH, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861-80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866-85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881-85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

DISTRICTS. (See p. 72.)	Observed during the Week. Highest.	Observed during the Week. Lowest.	Averages of Daily Maxima.	Averages of Daily Minima.	Averages of Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
	°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	56	25	45·4	35·3	40·2	0 (average).	10	0	25	− 6	65	− 24	429	+ 50
1. SCOTLAND, EAST	66	25	47·9	36·2	41·9	2 above.	17	0	23	− 7	106	− 25	461	+ 34
2. ENGLAND, N.E.	60	27	48·1	37·5	42·6	2 above.	23	+ 6	13	−12	93	− 45	426	+ 42
3. ENGLAND, EAST	66	30	51·9	37·2	44·3	2 above.	36	+11	13	−14	94	− 85	541	+141
4. MIDLAND COUNTIES	63	25	50·3	36·5	43·2	1 above.	32	+ 5	15	−11	115	− 78	488	+ 96
5. ENGLAND, SOUTH	60	29	49·5	37·5	43·3	0 (average).	28	− 1	13	− 7	111	− 98	412	+107
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	?56	25	47·2	38·4	42·7	1 above.	20	+ 3	10	−11	130	− 17 *	315	+ 3
7. ENGLAND, N.W.	58	28	48·0	38·1	42·9	0 (average).	23	+ 3	11	− 8	97	− 52	326	+ 20
8. ENGLAND, S.W.	56	26	48·8	37·4	42·9	1 below.	26	− 1	13	− 2	170	− 86	284	+ 99
9. IRELAND, NORTH	58	29	48·5	39·1	43·7	1 above.	24	+ 2	8	−11	181	− 16	264	− 10
10. IRELAND, SOUTH	58	27	49·8	38·9	44·2	0 (average).	28	− 2	9	− 5	257	− 28	198	+ 13
— CHANNEL ISLANDS	54	33	49·4	41·4	45·3	1 below.	26	− 4	2	− 3	236	− 40	77	− 7

Rainfall.

DISTRICTS. (See p. 72.)	For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.
		10ths of In.				Ins.	Ins.
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	7	17	3 more.	66	+7	13·4	+1·4
1. SCOTLAND, EAST	4	6	2 more.	50	+7	4·7	−2·7
2. ENGLAND, N.E.	4	12	7 more.	43	+1	4·8	−0·7
3. ENGLAND, EAST	5	4	1 more.	43	0	3·6	−1·5
4. MIDLAND COUNTIES	4	8	4 more.	39	−2	5·6	−0·8
5. ENGLAND, SOUTH	6	6	2 more.	43	+2	4·9	−1·6
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	6	11	2 more.	54	+2	10·3	−2·7
7. ENGLAND, N.W.	5	12	7 more.	46	0	6·0	−2·0
8. ENGLAND, S.W.	5	9	2 more.	45	−2	9·0	−1·9
9. IRELAND, NORTH	6	10	4 more.	61	+6	8·0	−0·4
10. IRELAND, SOUTH	4	4	2 less.	51	−1	8·3	−2·0
— CHANNEL ISLANDS	6	5	1 less.	55	+3	6·6	−1·8

Bright Sunshine.

DISTRICTS. (See p. 72.)	For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	10	12	130	−28	17	− 4
1. SCOTLAND, EAST	19	22	180	−44	23	− 6
2. ENGLAND, N.E.	24	28	183 †	+16	23	+ 2
3. ENGLAND, EAST	25	29	179	−32	22	− 4
4. MIDLAND COUNTIES	24	28	170	−23	21	− 3
5. ENGLAND, SOUTH	20	24	160	−39	19	− 5
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	19	23	180	+16	23	+ 2
7. ENGLAND, N.W.	19	22	172	+ 7	22	+ 1
8. ENGLAND, S.W.	24	29	205	−19	25	− 2
9. IRELAND, NORTH	13	15	156	−30	19	− 5
10. IRELAND, SOUTH	19	22	213	− 2	26	− 1
— CHANNEL ISLANDS	20	23	250	−32	30	− 4

General Remarks.

Weather has been in a cloudy and unsettled condition very generally. A good deal of rain has fallen in most parts of the Kingdom, but in the east of England, the south of Ireland, and the "Channel Islands", the fall has been less heavy than elsewhere, and in the two last-named districts the fall has been less than the average.

Temperature has been rather below the mean in "England, S.W." and the "Channel Islands", but in most other parts of the Kingdom it has been above. The highest of the maxima were registered in most places on the 24th, and varied from 54° in the "Channel Islands" to 63° in the "Midland Counties" and to 66° in "Scotland, E." (at Aberdeen). In "England, E." (at Rothamsted) a reading of 66° was recorded on the 25th. The lowest of the minima occurred on the 22nd, and varied from 25° in Scotland and the "Midland Counties" to 30° in "England, E." and to 33° in the "Channel Islands".

Rainfall has been rather less than the mean in the south of Ireland and at Scilly, but more in all other districts, especially over the north of England.

Bright sunshine has been more prevalent than it was last week, but the percentage of the possible duration has continued low generally; in some parts of England 29 per cent. has been recorded, but in "Ireland, N." the percentage was only 15, and in "Scotland, N." 12.

Barometer and Wind.—In the earlier part of the period the centre of a depression of considerable importance passed over Ireland and the north of England, after which it moved south-south-eastwards to the Straits of Dover. During its passage over our Islands fresh or strong winds from the South-Westward were experienced over our southern districts, and strong North-Easterly winds or gales in Ireland, Scotland, and the northern parts of England. The North-Easterly current subsequently extended to our southern stations also. As this system disappeared the barometer rose decidedly, but towards the end of the period a brisk fall set in; depressions then appeared off our northern coasts, and the wind backed to the Westward or South-Westward very generally.

* The corresponding value in last week's Report should read "22."
† This value has been altered owing to the receipt of further information.

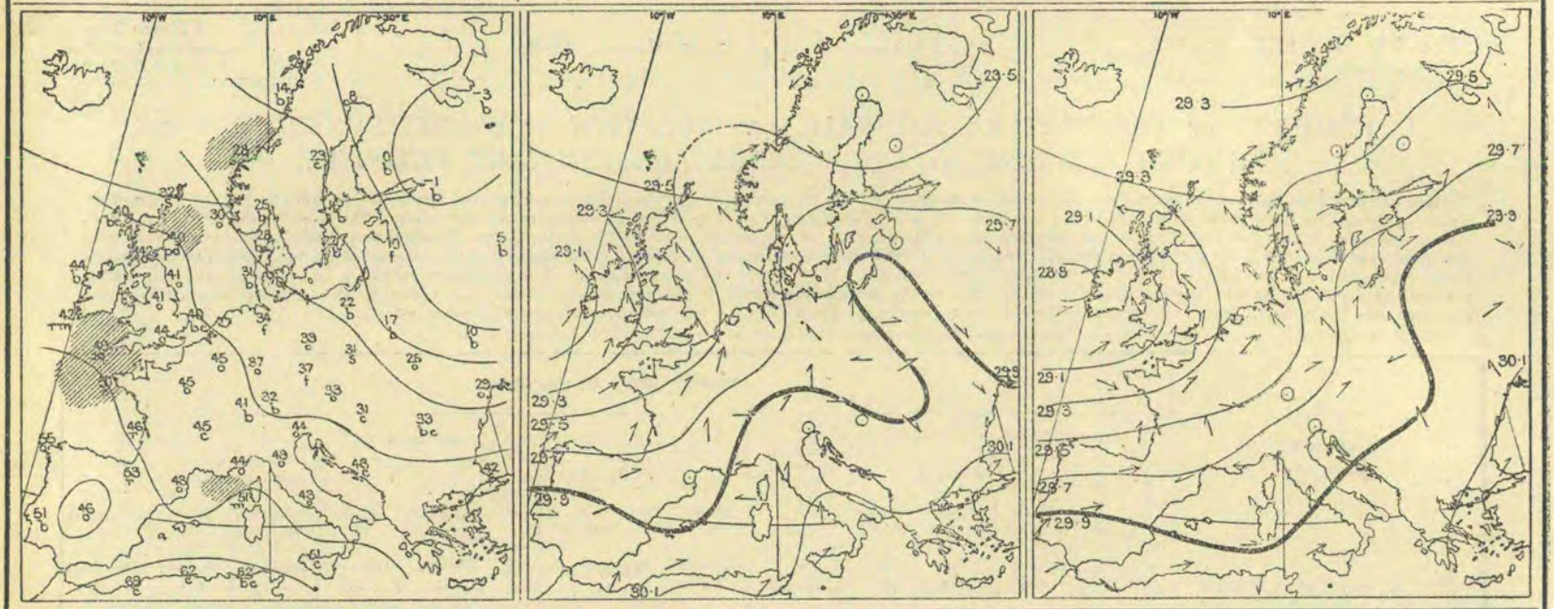
A 58996. 350.—3/89. Wt. 37. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 19th March.

Temperature and Weather. | **Barometer and Wind.**

8 a.m. | **8 a.m.** | **6 p.m.**



Weather dull and somewhat mild over Western Europe generally, with rain in the western parts of France and the United Kingdom, snow in the west of Norway; fine over Russia, Poland, and many parts of Germany, but foggy at Cuxhaven and Prague. Rain falling subsequently all over the British Islands, most in the north, and also over the greater part of France (heavily at Cette); heavy snow in Norway; thunder and lightning occurring over our south-western coasts.

Temperature rising in the west, falling over Russia; morning reading below zero Faht. at Archangel, and much below the freezing point at all stations in Lapland, Russia, and Poland; frost not reported at the more western and southern stations, and thermometer above 60° in many parts of Algeria. Thermometer subsequently rising to between 68° and 75° at the Algerian stations, and varying from 50° to 57° in many parts of England.

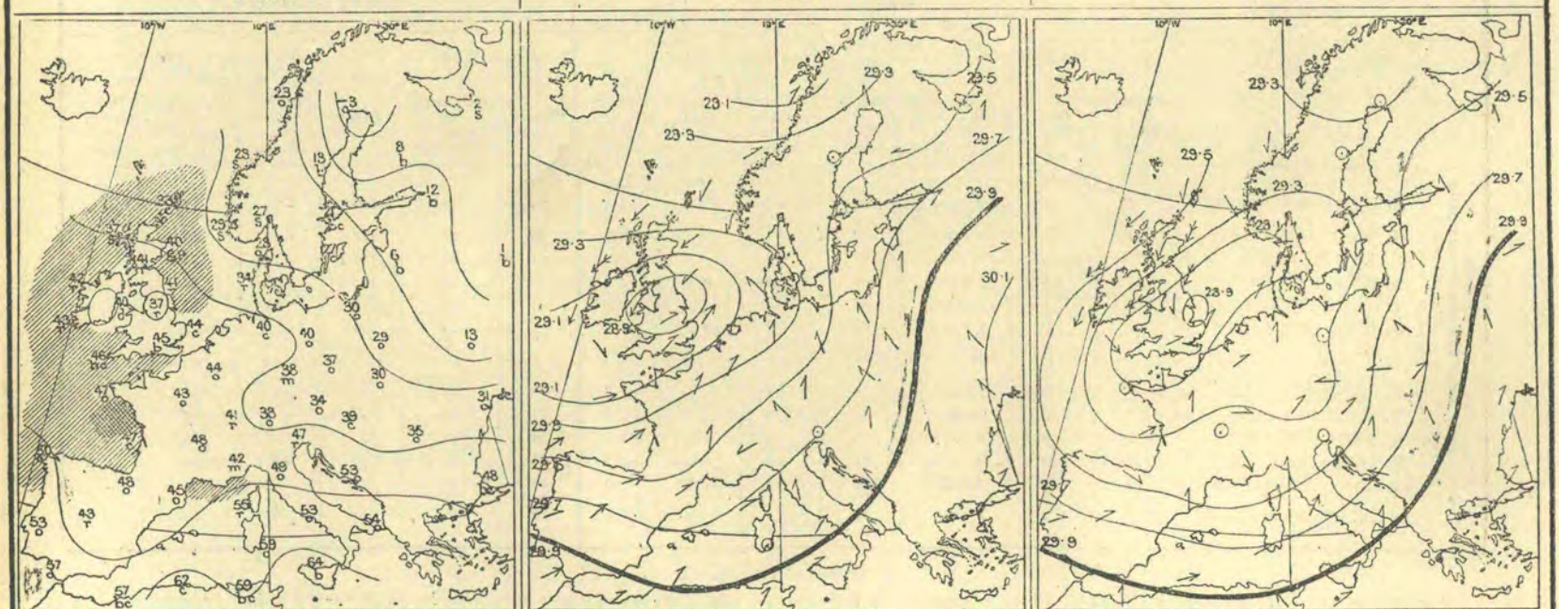
Wind Southerly (South-East to South-West) over the British Islands, France, and the North Sea, and blowing strongly at many of the most western stations; light Southerly over the Baltic, very variable and light over Russia, Austria, and the Mediterranean. Subsequently backing to the Eastward in the north of our Islands, and beginning to blow hard; freshening considerably from the South-Westward in the Channel and at our southern stations simultaneously.

Barometer highest (30·0 ins. to nearly 30·2 ins.) over South-Eastern Europe, lowest in the extreme north and west. New depression advancing over Ireland later, where the barometer fell to below 29·0 ins.; recovery of pressure occurring in the north subsequently.

Wednesday, 20th March.

Temperature and Weather. | **Barometer and Wind.**

8 a.m. | **8 a.m.** | **6 p.m.**



Weather very rainy and unsettled in the north and north-west, with wet snow in some places, changeable from clear to dull and showery in the south; cloudy and unsettled over the Continent as a whole, but fine in Sweden and in Northern and Central Russia. A good deal more rain later at most stations, with snow in the north, but amounts collected less heavy than those of previous day.

Temperature risen a little over Central and South-Eastern Europe, and also over Russia, falling again in the west and north-west; morning readings much below zero in the eastern parts of Lapland, but not over Russia; much below the freezing point, however, over that country, as well as over Poland and the Baltic Provinces, and very little above the freezing point in Scotland and Ireland. The low temperatures in the north spreading slowly to the southward, over our Islands, later.

Wind North-Easterly, strong to a gale, over Ireland and Scotland, South-Westerly, strong and squally, on our eastern and southern coasts and the Channel, but less strong in Spain and France. Light South-Easterly breezes felt over Austria, Germany, and Russia, Southerly to South-Westerly over the Baltic and the northern parts of Scandinavia. Gale spreading to the north-eastern and north-western parts of England later.

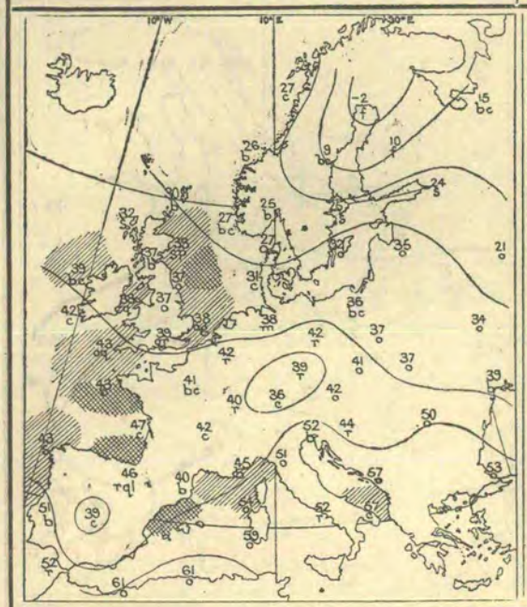
Barometer now highest (30·0 ins. to 30·2 ins. and more) over Southern Russia; lowest (28·8 ins. and less) in the depression of yesterday, now found over the north of England. Falling steadily in the south and east during the day, but beginning to rise fast in Scotland and Ireland, thus forcing the depression in a southerly and south-easterly direction, and causing steep gradients for north-easterly winds to prevail over the northern and western parts of our area.

II.—SUMMARY OF WEATHER OVER EUROPE

Thursday, 21st March.

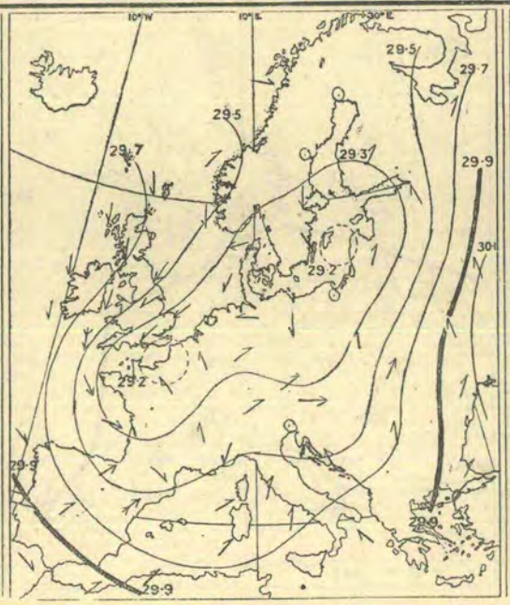
Temperature and Weather.

8 a.m.

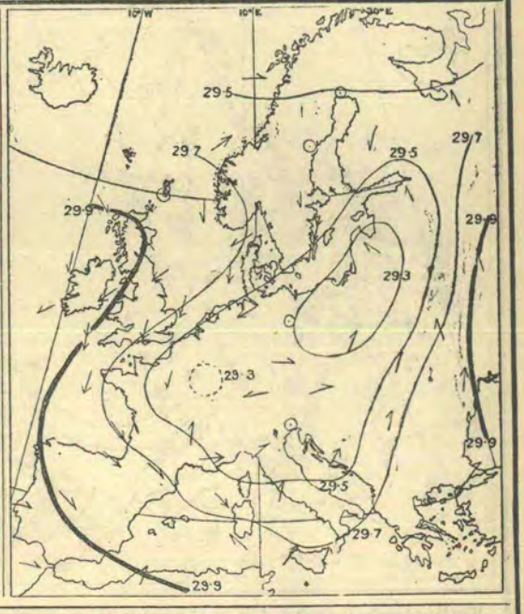


Barometer and Wind.

8 a.m.



6 p.m.



Weather though rather quieter over our Islands than on 20th, still squally, rough, and unsettled, with snow in the north and north-east, rain in the south-east. Unsettled and showery over France and Germany, dull in Russia, clear in Norway. Rain in Germany, Austria, France, Algeria, and Spain during the day; sleet and snow squalls over the British Isles, except in the extreme north-west.

Temperature risen decidedly at the Russian and Polish stations, where frost was much less intense than for some time past; still below zero at Haparanda, and very low over Sweden and Finland. Very little above the freezing point in our Islands (except in extreme south-east), and subsequently becoming low in all our districts. Frost at night over North Britain.

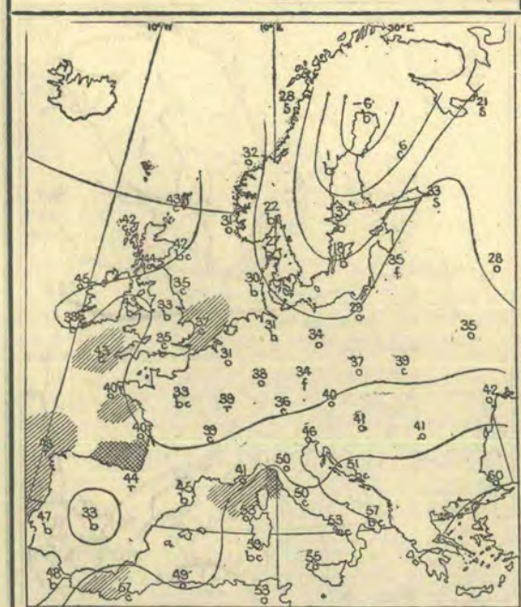
Wind North-Easterly to Northerly, moderate to strong over the British Isles, North-Westerly in the west of France, Westerly to South-Westerly gales in the neighbourhood of the Pyrenees; South-Westerly, moderate over Spain and the Bay of Biscay, South-Westerly to Southerly in Germany and Russia; Northerly in Sweden and Holstein; North-Easterly and Northerly gales reaching the Channel later, but wind lulling in Scotland, Ireland, and the North of England. The Northerly wind in Sweden also increasing later.

Barometer high both over South-Eastern Russia and off our own west and north-west coasts, low in a large shallow area covering the North of France, the Netherlands, Germany, and the Baltic, and leaving two distinct minima, one near Boulogne, the other over the Gulf of Riga. The western high-pressure area increasing in intensity later, and spreading south-eastwards over Western Europe, that over Russia giving way slightly. The depression in the south-east moving eastwards to Germany and beginning to fill up, while that near Riga grew deeper and passed inland over the Baltic provinces.

Friday, 22nd March.

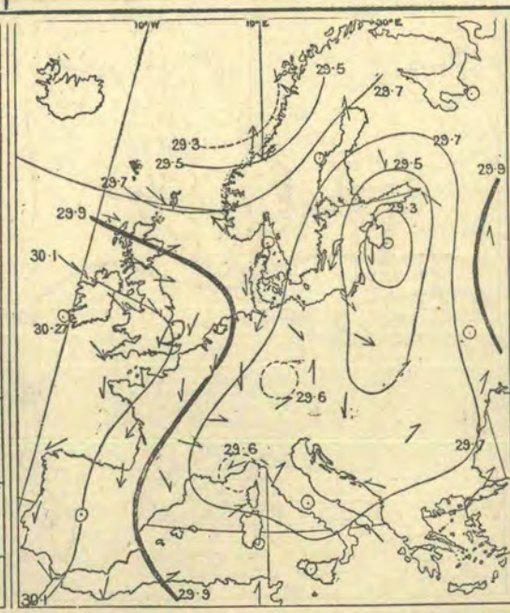
Temperature and Weather.

8 a.m.

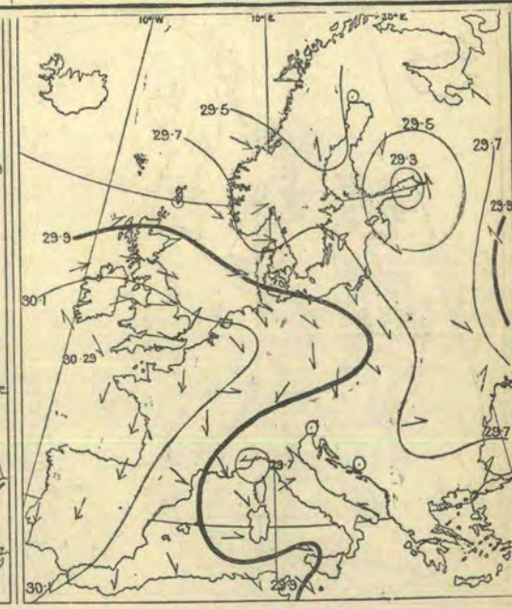


Barometer and Wind.

8 a.m.



6 p.m.



Weather fairer over France and the British Islands than of late, but not settled; becoming cloudy and showery on our north-western and northern coasts and in Norway, and not at all settled over Central and Eastern Europe—*i.e.*, cloudy generally, snow and rain locally. A little rain at all our northern and north-western stations later.

Temperature fallen on the Continent and in England, but rising again in Ireland, Scotland, and Norway, and subsequently over England also. Frost severe over Northern Europe (readings below zero Faht. at Haparanda and Uleaborg), and some frost in early morning over England, the Netherlands, and north of France also. At no station throughout Europe and Algeria did the thermometer at 8 a.m. exceed 60°, and at very few did it touch 50°; rising, however, to between 50° and 55° at Scotch stations later on; sharp frost at night over England, the Low Countries, and north of France.

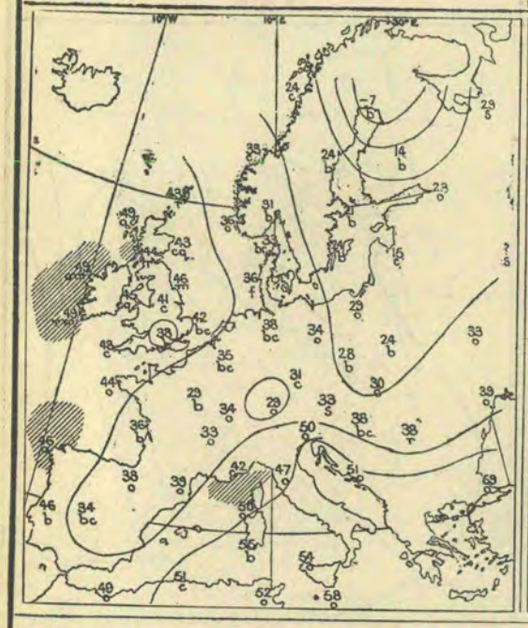
Wind Northerly, moderate to fresh, over the Baltic, Netherlands, France, and Spain, North-Westerly over the Mediterranean and also over North Germany, variable and light in Austria, Southerly over Central Russia. Back to South at the Norwegian station and to West in Scotland, and afterwards backing over the British Islands generally and freshening from South-West on our north-west coasts.

Barometer high both over the Atlantic (to the westward of the Bay of Biscay and Ireland) and rather so over Central Russia, low over the Baltic Provinces, Central, and South-Eastern Europe, with a growing depression near Riga. New large depression approaching Norway from the westward, and a secondary disturbance forming over Sweden later.

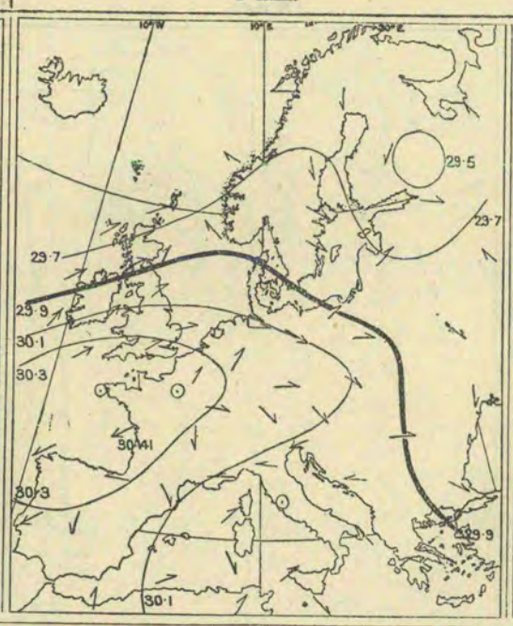
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 23rd March.

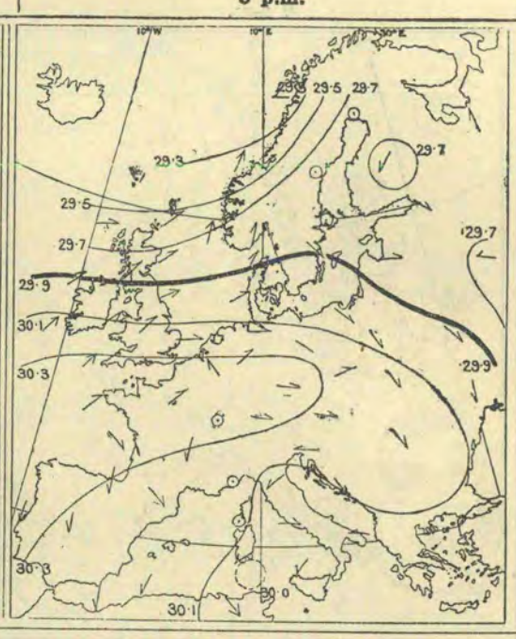
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine in the east and south of Great Britain, as well as in Sweden, Finland, Eastern Germany, France, Italy, and Spain. Cloudy or overcast elsewhere, with rain in Ireland and the west of Scotland, and snow at Archangel, Moscow, and Vienna. Rainy weather extending later to the west of England and also to Norway; thunderstorm occurring at Algiers.

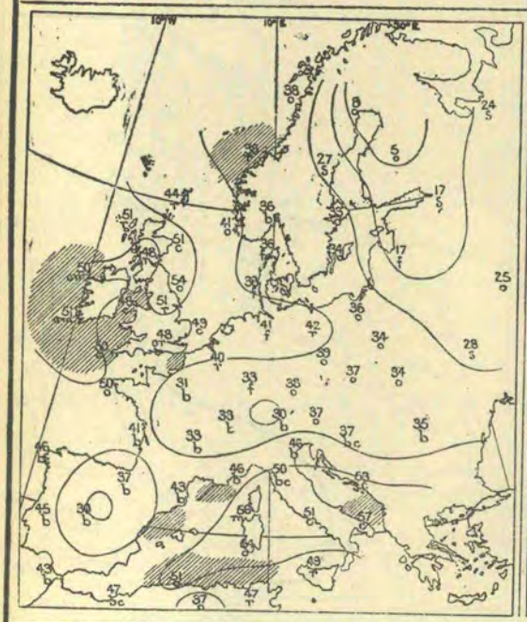
Temperature a few degrees below zero in Lapland (Haparanda – 7° Faht.); considerably below the freezing point over the Gulf of Finland; slightly below 32° over nearly the whole of Northern and Central Europe. Above 50° on the shores of the Mediterranean, highest reading of all being 58° at Malta and Sfax; very little below 50° in the extreme west and north-west of our Islands. Subsequently rising above 50° in many parts of the United Kingdom; highest reading of all being 56° at Nairn.

Wind South-Westerly in our Islands; strong in force in the west and north-west. Moderate from South-East in the west of Norway, from West over Central Europe, and from the North-Eastward in most of the southern countries. Cyclonic circulation of light winds reported over Sweden and Northern Russia; light South-Westerly breezes in Algeria. Subsequently increasing to a strong breeze from the Southward or South-Westward in the west of Norway.

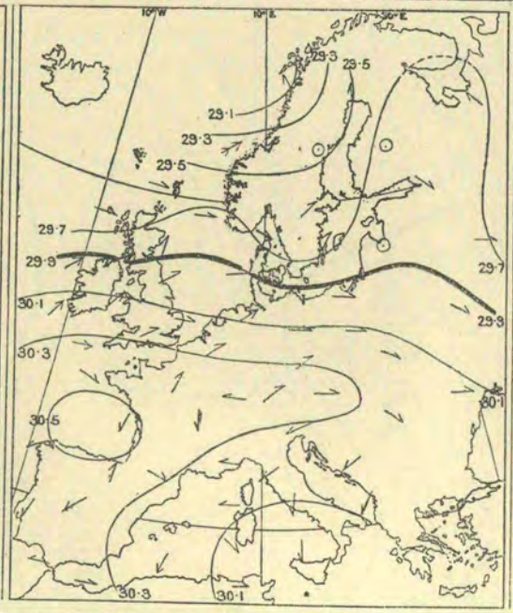
Barometer highest, 30·4 ins. and upwards, in an anticyclone lying over the Bay of Biscay and the west of France; lowest, 29·5 ins. and less, in a large area lying to the northward of our Islands, and also in a shallow depression lying over Finland. Low pressure area in far north subsequently moving eastwards; barometer rising on our extreme west and north-west coasts, but falling in other parts of the United Kingdom.

Sunday, 24th March.

Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.

Weather fine in France, Spain, Northern Italy, and the southern parts of Germany and Austria. Cloudy or overcast elsewhere, with fog in Denmark, rain in many parts of North-Western and Central Europe, and snow at some of the Russian stations. Improvement taking place later over the eastern parts of Great Britain, but rain falling in Denmark and Germany, and snow at Aumale.

Temperature not much above zero in Lapland and Finland (Kuopio and Helsingfors, 5° Faht.); considerably below the freezing point over the Baltic provinces; slightly below 32° over Sweden, Russia, and the central parts of France and Spain. Above 50° over the western and northern parts of the United Kingdom, and also on the shores of the Mediterranean, highest reading of all being 57° at Brindisi. Subsequently rising above 60° over the eastern and central parts of Great Britain and above 66° at Aberdeen.

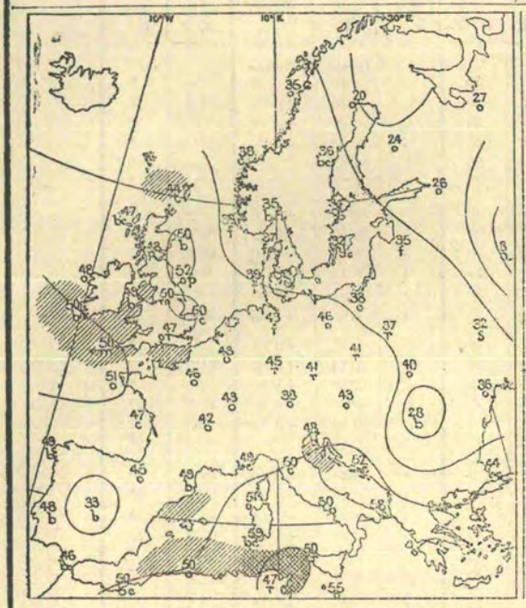
Wind South-Westerly or Westerly over North-Western and Central Europe; strong in force in the west and south of our Islands, but light or moderate elsewhere. Light Southerly breezes reported over Sweden and the Baltic, and North-Easterly breezes over the greater part of Southern Europe; calms or light Westerly breezes general in Algeria. Subsequently veering to the Northward at the Algerian stations, but no decided change reported elsewhere.

Barometer highest, 30·5 ins. and upwards, in an anticyclone lying over the Bay of Biscay. Lowest, 29·1 ins. and less, in a depression lying off the north-west of Norway; but low, 29·7 ins. and less, in a large area lying over Central Russia. Small shallow secondary disturbances moving eastwards across the United Kingdom. Depression off north-west of Norway subsequently travelling north-eastwards, but well defined disturbance appearing over the Mediterranean to the southward of Sicily.

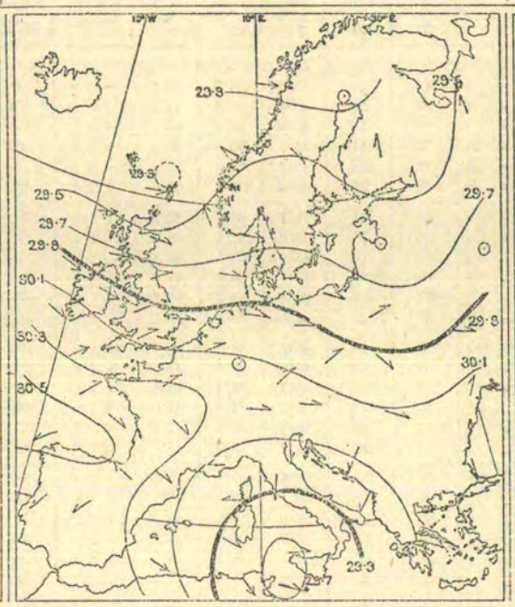
II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 25th March.

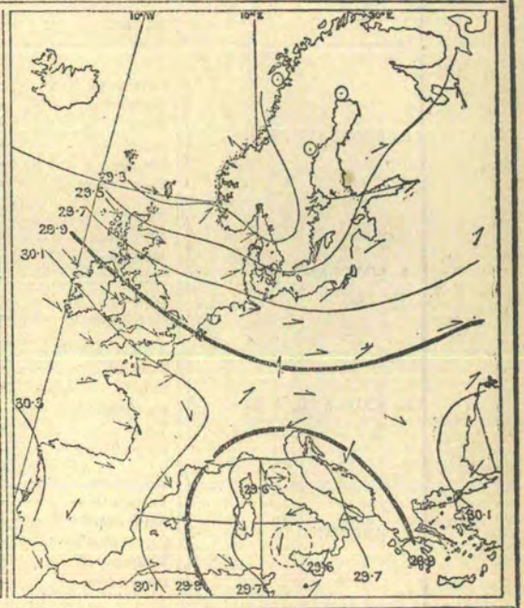
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fair at several of the Irish and Scotch stations, as well as in Sweden, Spain, the south of France, and Western Algeria. Cloudy elsewhere, with fog over Denmark, North Germany, the south of Norway, and the Baltic provinces; rain over England, Central Germany, and Tunis, and heavy snow at Aumale. Hail showers falling later in the north of Scotland, and heavy rain at some of the Italian stations.

Temperature considerably below the freezing point over Central Russia (Moscow 8° Faht.); slightly below 32° over Russia generally; below 40° over the whole of Northern Europe, and also in Central Algeria (reading at Aumale only 35°). Above 50° at the Mediterranean stations, highest reading of all being 59° at Cagliari. Maximum readings above 50° in many parts of the United Kingdom, highest being 66° at Rothamsted, 59° at Cambridge, and 58° in London and at Oxford.

Wind chiefly Westerly over North-Western, Northern, and Central Europe, and strong in force in the south and extreme north of our Islands, but South-Easterly or Easterly in the west of Norway. Light or moderate from the North-Eastward in Spain and Italy, but North-Westerly over Algeria and the south of France. Subsequently increasing to a gale from West or North-West in the extreme north of Scotland.

Barometer highest, 30·3 ins. to 30·5 ins. and upwards, in an anticyclone lying over the north of Spain and the southern parts of the Bay of Biscay; high, 30·2 ins. and upwards, over Southern Austria and the Balkan provinces. Lowest, 29·3 ins. and less, over the north of Scandinavia, and also in a small depression lying near the Shetlands; low, 29·7 ins. and less, in a rather large disturbance lying over Sicily and the adjacent parts of the Mediterranean. Depression near Shetlands subsequently travelling eastwards, but new disturbance approaching Norway from the north-westward.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

The distribution of pressure has been constantly changing during the week. Depressions have passed over our area from the westward and north-westward, causing alternations of South-Westerly and North-Easterly winds, much rain and very unsteady temperatures. Over the Mediterranean also the weather has been very unsettled, and at the close of the week a well-marked depression had arrived off the Ægades Islands from the southward, producing strong Northerly winds over all the western half of the Mediterranean, with cold weather and rain.

III.—DATA from which the SUMMARY on page 67 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	48	27	43·0	33·3	38·0	− 1·4	3	30	6	1·02	+0·40	*	*
	Stornoway	53	29	46·4	36·4	41·3	+ 0·6	12	22	7	0·85	+0·02	14·3	17
	Wick	56	29	47·4	36·0	41·5	+ 1·9	15	23	7	0·96	+0·54	*	*
	Lairg Ⓢ	52	25	45·3	33·9	39·4	+ 0·2	9	29	6	1·02	+0·37	*	*
	Glencarron Ⓢ	49	26	43·7	35·4	39·4	− 0·4	5	23	7	4·37†	?	5·5	6
	Fort Augustus Ⓢ	56	30	46·6	36·9	41·6	+ 1·4	13	20	7	1·75†	?	*	*
1. SCOTLAND, E.	Nairn	60	31	48·1	36·4	42·3	+ 1·6	26	16	5	0·48	+0·10	*	*
	Aberdeen	66	31	49·6	37·3	43·3	+ 3·6	29	13	5	0·63	+0·12	23·8	28
	Braemar Ⓢ	55	26	44·5	33·5	38·8	+ 2·0	7	30	5	0·41	−0·19	13·0‡	15
	Ochtertyre Ⓢ	60	29	50·7	36·9	43·6	+ 3·6	33	14	4	0·18	−0·42	*	*
	Leith	56	32	49·1	38·6	43·7	+ 1·9	26	10	3	0·41	+0·09	*	*
	Marchmont Ⓢ	57	25	45·6	34·4	39·8	0·0	10	28	4	1·75	+1·23	19·0	22
2. ENGLAND, N.E.	Alnwick Castle	53	29	45·7	38·0	41·7	+ 1·2	10	16	3	1·46	+0·97	*	*
	Durham	60	27	48·6	35·6	41·9	+ 1·8	18	26	3	1·14	+0·65	24·5	29
	Shields	57	30	48·7	38·4	43·4	+ 2·5	25	10	3	1·39	+1·02	*	*
	Scarborough Ⓡ	55	32	48·6	37·6	42·9	+ 2·0	25	12	3	0·66	+0·26	22·6‡	27‡
	York	57	29	50·4	37·3	43·7	+ 2·0	32	13	6	0·92	+0·54	?	?
	Spurn Head	54	32	46·3	38·0	42·0	+ 0·7	12	11	5	1·33	?	*	*
3. ENGLAND, E.	Hillington Ⓡ	62	32	52·3	37·2	44·5	+ 3·7	38	13	5	0·74	+0·40	25·4	30
	Yarmouth	62	33	49·1	38·0	43·4	+ 1·5	27	11	4	0·14	−0·26	*	*
	Geldeston	65	31	52·2	37·2	44·5	+ 2·2	38	13	4	0·21	−0·14	26·3	31
	Cambridge	65	30	53·9	36·9	45·1	+ 2·8	43	14	4	0·47	+0·15	23·3	27
	Rothamsted	66	30	52·7	36·2	44·2	+ 2·4	40	16	6	0·53	+0·15	*	*
	Ingatestone	60	31	51·0	37·5	44·1	+ 1·7	34	13	4	0·50	+0·20	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	62	31	50·6	38·1	44·2	+ 2·6	32	11	4	1·68	+1·33	22·7‡	27‡
	Loughborough	63	29	51·9	37·3	44·4	+ 2·6	37	13	3	1·08	+0·75	24·0‡	28‡
	Cheadle Ⓡ	58	25	47·9	35·3	41·4	+ 0·8	17	26	5	1·11	+0·61	*	*
	Churchstoke Ⓡ	56	26	48·8	36·2	42·3	+ 1·0	26	16	4	0·55	+0·14	21·3	25
	Hereford Ⓡ	60	27	51·7	36·8	44·0	+ 1·2	36	15	4	0·22	−0·17	*	*
	Cirencester	57	26	50·1	34·7	42·2	− 0·1	32	20	4	0·42	−0·06	26·2	31
	Oxford	58	30	51·1	37·3	44·0	+ 1·2	34	13	3	0·63	+0·28	26·4	31
5. ENGLAND, S.	London	60	31	52·3	38·1	45·0	+ 1·4	37	11	6	0·74	+0·41	17·6‡	21
	Strathfield Turgiss Ⓡ	58	29	51·2	35·0	42·9	− 0·3	36	20	5	0·60	+0·27	*	*
	Dungeness	49	30	47·4	38·3	42·7	− 1·6	20	10	5	0·45	+0·04	*	*
	Hastings (St. Leonard's)	50	31	47·7	38·3	42·9	− 0·4	22	10	6	0·54	+0·13	15·8	19
	Southampton	58	29	51·3	38·2	44·6	+ 0·7	34	11	5	0·81	+0·45	23·3	27
	Hurst Castle	55	31	48·7	38·7	43·6	− 0·9	25	9	6	0·69	+0·23	*	*
	Stowell Ⓡ	54	29	47·9	35·7	41·6	− 1·2	17	25	6	0·47	?	23·2‡	27
6. SCOTLAND, W.	Laudale (Loch Sunart)	?56	29	?47·8	39·7	?43·6	?+ 2·7	?21	?3	6	2·00†	+0·57	*	*
	Glasgow	52	31	46·6	38·1	42·2	+ 1·1	18	11	6	0·58	+0·03	16·5	19
	Ardrossan	51	31	47·4	37·9	42·5	+ 0·9	21	11	5	0·61	+0·06	*	*
	Glenlee Ⓢ	54	25	47·6	36·9	42·1	+ 1·1	22	14	6	1·16	?	*	*
	Douglas (Isle of Man)	52	33	46·8	39·5	43·0	+ 0·1	18	7	6	1·25	+0·64	21·9	26
7. ENGLAND, N.W.	Newton Reigny (Penrith)	54	28	47·1	36·1	41·4	+ 0·6	14	23	5	0·88	+0·40	14·8	17
	Barrow-in-Furness	48	34	46·3	38·4	42·2	− 1·2	17	10	4	1·12	+0·62	*	*
	Stonyhurst	50	28	46·8	36·6	41·6	− 0·2	13	22	5	2·76	+2·04	21·3	25
	Blackpool Ⓡ	52	32	48·5	37·5	42·8	− 0·6	25	13	3	0·90	+0·42	19·8	23
	Manchester	57	28	49·8	37·1	43·3	+ 1·5	30	14	5	1·22	+0·70	*	*
	Liverpool Obsy (Bidston)	58	34	49·3	39·1	44·1	+ 1·1	27	8	4	0·70	+0·32	*	*
	Llandudno Ⓡ	55	34	48·4	39·2	43·7	− 0·3	24	8	5	1·09	+0·65	18·3	22
	Holyhead	53	36	48·0	41·0	44·4	— 0·3	21	3	5	0·82	+0·33	*	*
8. ENGLAND, S.W.	Llandovery	56	27	50·4	34·7	42·3	− 0·6	33	20	5	1·46	+0·76	*	*
	Pembroke	50	34	46·7	40·6	43·6	− 1·4	17	4	6	0·45	−0·06	31·2	37
	Arlington (N. Devon)	51	29	47·6	35·4	41·3	− 1·7	16	26	5	1·75	+1·03	*	*
	Cullompton Ⓡ	56	26	50·4	36·4	43·2	− 0·6	32	16	5	0·39	−0·06	23·8	28
	Falmouth	54	34	48·9	39·5	44·1	− 1·5	25	7	4	0·84	+0·09	21·8	26
	Plymouth	56	30	49·7	37·5	43·4	− 1·9	29	13	4	0·58	+0·03	19·7	23
	Prawle Point	53	29	47·9	37·4	42·5	− 2·2	23	13	6	0·46	?	*	*
9. IRELAND, N.	Malin Head	50	35	46·6	40·7	43·6	+ 1·4	17	4	5	0·82	?	*	*
	Londonderry	54	34	48·5	40·0	44·2	+ 2·0	24	6	5	1·01	+0·39	*	*
	Mullaghmore	53	36	48·4	41·3	44·8	+ 1·1	23	2	6	1·22	+0·60	*	*
	Belmullet	51	34	47·9	40·7	44·2	− 1·4	21	4	7	1·40	?	*	*
	Markree Castle	55	33	48·9	37·0	42·8	− 0·1	27	14	7	0·82	+0·26	11·6	14
	Brookeborough	53	29	47·9	37·2	42·4	+ 0·9	23	13	5	1·10	?	*	*
	Armagh	54	30	49·3	38·0	43·5	+ 0·7	27	11	6	0·84	+0·36	13·5	16
	Donaghadee	58	36	50·3	40·0	45·0	+ 1·1	29	6	6	0·87	+0·43	*	*
	Edgeworthstown	52	30	48·7	36·7	42·5	+ 0·9	26	15	6	0·63	0·00	*	*
10. IRELAND, S.	Dublin	58	33	50·0	40·4	45·1	+ 1·2	28	4	4	0·51	+0·03	17·6	21
	Parsonstown	54	29	49·0	37·3	43·0	0·0	27	13	6	0·53	+0·01	14·0	16
	Kilkenny	56	30	49·6	37·9	43·6	+ 0·7	28	11	3	0·21	−0·29	*	*
	Waterford	55	28	49·4	37·1	43·1	− 1·5	28	14	4	0·16	−0·53	*	*
	Roche's Point	53	33	49·7	39·4	44·4	− 0·7	28	7	4	0·44	−0·39	*	*
	Valencia	55	35	50·4	40·4	45·3	− 0·9	30	4	5	0·92	−0·03	25·6	30
	Killarney	54	27	50·0	38·2	43·9	− 0·8	29	11	4	0·34	?	*	*
	Foynes	56	33	49·9	40·8	45·2	+ 0·7	27	3	4	0·27	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	54	39	50·4	42·9	46·5	− 0·4	32	0	5	0·39	−0·16	*	*
	Jersey	52	33	48·4	39·9	40·0	− 0·7	23	6	6	0·54	+0·04	19·5	23

Stations marked Ⓡ are in connection with the Royal Meteorological Society, and those marked Ⓢ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, and Laudale being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the first and second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 13.] *Third Series.* WEEK ENDING MONDAY, 1ST APRIL, 1889. [*Price 6d.* [*Annual subscription, post paid*, £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

DISTRICTS. (See p. 78.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
	°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	60	25	48·0	36·5	42·1	1 above.	24	+11	15	−13	89	− 7	443 *	+ 28
1. SCOTLAND, EAST	62	25	51·2	36·5	43·6	3 above.	34	+14	15	−11	140	− 2	476	+ 14
2. ENGLAND, N.E.	62	29	49·9	37·4	43·5	1 above.	30	+10	13	− 8	123	− 24	439	+ 24
3. ENGLAND, EAST	58	23	51·3	36·4	43·6	1 above.	35	+ 7	16	− 7	129	− 68	557	+122
4. MIDLAND COUNTIES	62	21	51·6	35·9	43·5	0 (average).	36	+ 6	17	− 6	151	− 64	505	+ 79
5. ENGLAND, SOUTH	68	25	52·1	36·7	44·2	1 below.	38	+ 6	15	− 2	140	− 84	427	+ 98
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	54	21	48·9	38·1	43·3	1 above.	25	+ 4	11	− 7	155	− 5	326	− 13
7. ENGLAND, N.W.	56	30	48·4	38·5	43·3	1 below.	24	+ 1	10	− 7	121	− 43	336	+ 4
8. ENGLAND, S.W.	59	25	50·9	38·5	44·5	1 below.	32	+ 2	10	− 2	202	− 75	294	+ 90
9. IRELAND NORTH	59	27	50·9	40·3	45·5	1 above.	32	+ 6	5	−11	213	− 1	269	− 30
10. IRELAND, SOUTH	60	28	53·5	41·6	47·4	2 above.	39	+ 6	1	−11	296	− 15	199	− 6
— CHANNEL ISLANDS	53	32	50·4	42·7	46·5	0 (average).	32	− 2	0	− 3	283	− 35	77	− 12

Rainfall. Bright Sunshine.

DISTRICTS. (See p. 78.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
		10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	6	6	1 less.	72	+9	14·0	+1·3	20	22	150	−38	18	− 4
1. SCOTLAND, EAST	2	1	3 less.	52	+6	4·8	−3·1	27	31	207	−42	24	− 5
2. ENGLAND, N.E.	3	1	4 less.	46	+1	4·9	−1·0	23	25	205	+14	23	+ 1
3. ENGLAND, EAST	4	2	1 less.	47	+1	3·8	−1·7	18	21	197	−54	22	− 6
4. MIDLAND COUNTIES	4	2	2 less.	43	−1	5·8	−1·0	22	25	192	−31	21	− 4
5. ENGLAND, SOUTH	4	3	2 less.	47	+4	5·2	−1·8	27	31	187	−48	21	− 5
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	4	4	3 less.	53	+3	10·7	−3·0	32	37	212	+18	24	+ 2
7. ENGLAND, N.W.	5	3	2 less.	51	+3	6·2 *	−2·3	27	31	199	+ 8	22	0
8. ENGLAND, S.W.	3	3	4 less.	48	−3	9·3	−2·3	37	43	242	−13	27	− 1
9. IRELAND, NORTH	5	7	1 more.	66	+7	8·7	−0·2	25	28	181	−36	20	− 5
10. IRELAND, SOUTH	4	3	4 less.	55	0	8·6	−2·4	30	34	243	− 6	27	− 1
— CHANNEL ISLANDS	3	1	4 less.	58	+1	6·7	−2·2	47	53	297	−21	32	− 2

General Remarks.

Weather has varied considerably at different times during this period. On some days it has been fine and bright, but on others dull, with occasional falls of rain; over the more northern parts of the Kingdom sleet or snow showers were experienced. A thunderstorm occurred at Manchester on March 31st and peals of thunder were heard at Southampton also.

Temperature has been a little above the mean over Ireland, Scotland, and the north-east and east of England, but in the south and west of England a slight deficit is shown. The highest of the maxima, which were recorded either on the 28th or 29th, varied from 54° to 62° in Scotland, from 59° to 60° in Ireland, and from 56° to 62° in most parts of England; in "England, S.", however, (at Southampton) a reading of 68° was registered. The lowest of the minima occurred generally either on the 27th or 28th, and ranged from 21° in the "Midland Counties" and "Scotland, W." (at Cirencester and Glenlee) to 30° in "England, N.W." and 32° in the "Channel Islands".

Rainfall has been slightly more than the mean in "Ireland, N.", but less in all other districts.

Bright sunshine has been more prevalent in most districts than it was last week, the percentage of the possible duration having ranged from 21 in "England, E." to 37 in "Scotland, W.", 43 in "England, S.W.", and to 53 in the "Channel Islands".

Barometer and Wind.—During the whole of the period the barometer was highest in the south-west and west and lowest in the north-east and north. No depressions passed immediately over our Islands, and the gradients for North-Westerly to Westerly winds were generally moderate or slight and the winds consequently of no great strength. On the 26th, however, when a depression lay to the eastward of the Shetlands, the gradients were steep over Scotland and Ireland, and strong North-Westerly winds or gales were experienced.

* This value has been altered owing to the receipt of further information.

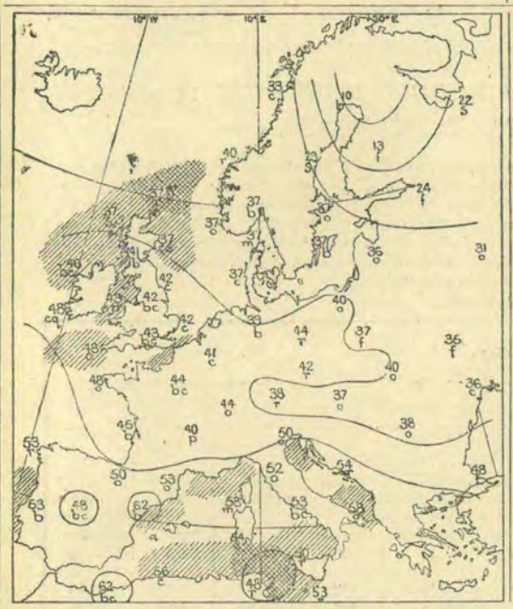
A 58175. 350.—4/89. Wt. 36. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 26th March.

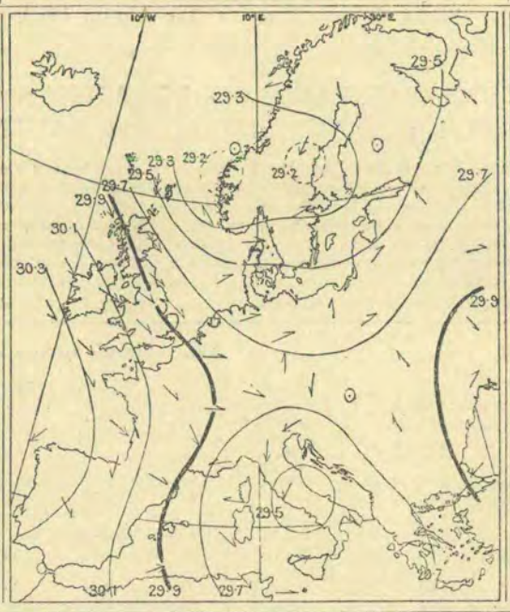
Temperature and Weather.

8 a.m.

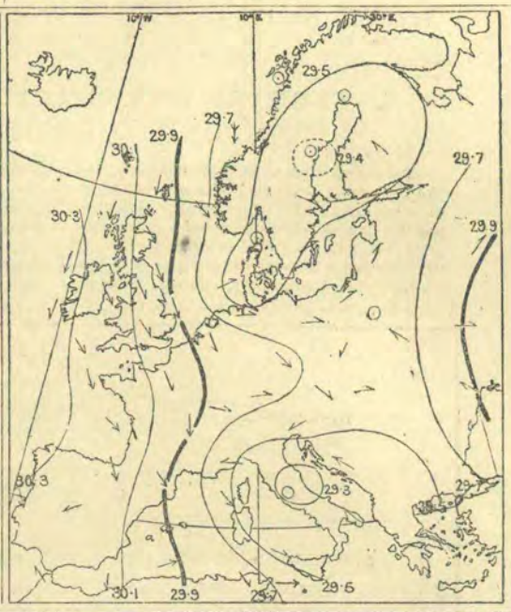


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine over the southern parts of the United Kingdom, as well as in the Netherlands, France, Spain, and Western Algeria. Cloudy or overcast elsewhere, with fog at several of the Russian stations; rain over Germany and some parts of the Mediterranean, and snow at Hernösand and Helsingfors. Snow showers also experienced in the north and east of Scotland. Heavy rain falling later at some of the Italian stations, largest amounts being 1·0 inch at Palermo and 0·8 inch at Pesaro.

Temperature considerably below the freezing point over Lapland and Finland (Haparanda 10° Faht., Kuopio 13° Faht.); below 40° over Northern and Eastern Europe generally. Above 50° on the coasts of the Iberian peninsula and also over the Mediterranean, highest reading of all being 62° at Barcelona and Oran. Subsequently rising above 50° in the extreme south of our Islands, but frost occurring over the inland parts of the Kingdom at night.

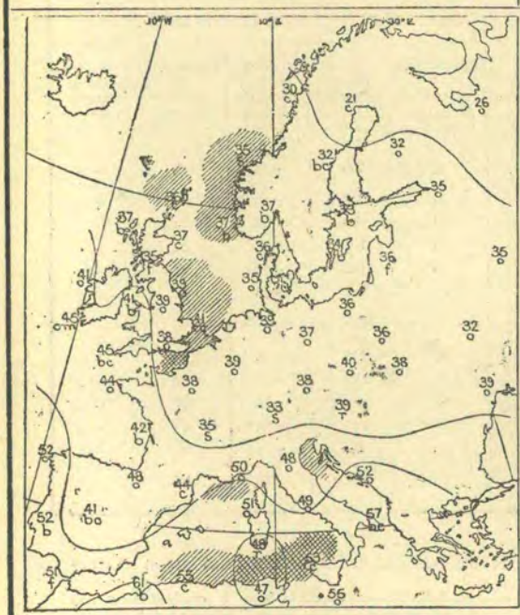
Wind fresh or strong from the North-Westward in our Islands, with a gale in the north and east of Scotland, and moderate from the same quarter in France. Light or moderate from the Westward in Denmark, Germany, and the Netherlands, South-Westerly or Southerly over the Baltic, and Easterly or North-Easterly in the north of Scandinavia. Cyclonic circulation shown over the Mediterranean, with strong Westerly and North-Westerly winds on the coasts of Algeria and Tunis. Gale in Scotland subsiding later, but strong "mistral" setting in over the Riviera.

Barometer highest, 30·3 ins. and upwards, in a large anticyclone lying to the south-westward of our Islands and the westward of the Iberian peninsula. Lowest, 29·2 ins. and less, in two depressions lying respectively over Central Sweden and the west of Norway, but low, 29·5 ins. and less, in a depression lying over Central Italy, and also in a small disturbance lying over the northern parts of the Adriatic. Depression over west of Norway subsequently moving south-eastwards.

Wednesday, 27th March.

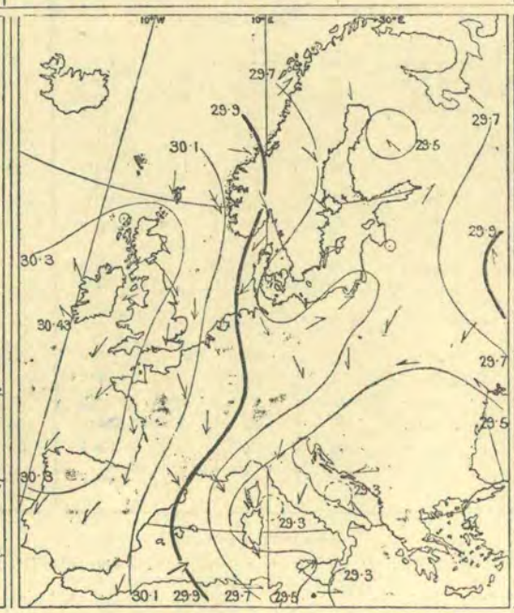
Temperature and Weather.

8 a.m.

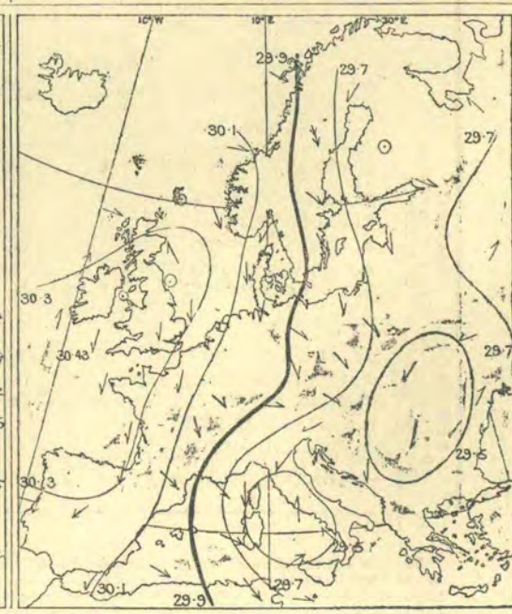


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine over the British Islands and also over the greater part of Scandinavia, Spain, and the west and south of France. Cloudy or overcast elsewhere, with fog at several of the Russian stations, rain at Copenhagen, Rome, and Cagliari, as well as in South Germany, and snow at Christiansund and Lyons. Rainy weather setting in at night over the extreme west of our Islands, largest amount measured next evening being 0·5 inch at Malin Head.

Temperature below the freezing point over Lapland and Northern Russia as well as over Central Ireland, lowest reading of all being 21° at Haparanda; below 40° over nearly the whole of North-Western, Northern, Central, and Eastern Europe. Above 50° on the coast of the Iberian Peninsula and also over the Mediterranean; highest reading of all being 61° at Oran. Maxima for day below 45° in the north of England.

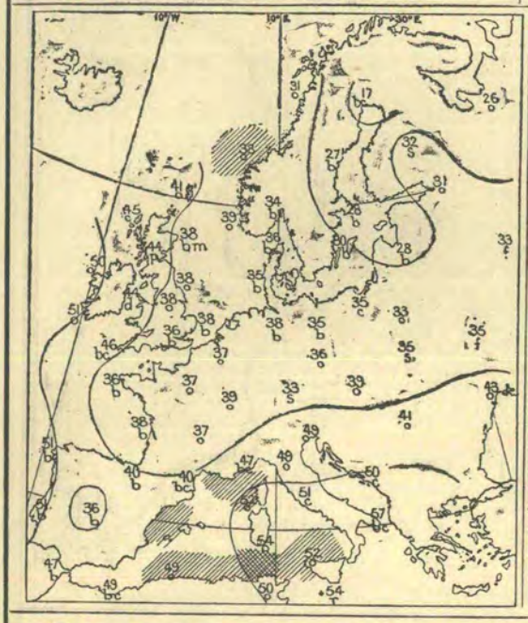
Wind Northerly over Scandinavia and Western Europe; strong in force over the eastern and southern parts of the North Sea. Fresh from the North-Westward in the south of France and from West in Algeria, but light from the Southward in Russia. Cyclonic circulations shown over Finland, Denmark, North Germany, and the central parts of the Mediterranean. Subsequently backing to the South-Westward or Southward in the west and north of our Islands.

Barometer highest, 30·4 ins. and upwards, in an anticyclone whose eastern edge extended from the north of Ireland to the north-west of Spain; relatively high, 29·9 ins. and upwards, over the southern parts of Central Russia. Lowest, 29·3 ins. and less, in three depressions lying respectively over the east of Italy, to the south-eastward of Sicily, and to the eastward of Corsica; low, 29·5 ins. and less, in a fourth system lying over the north of Finland, 29·7 ins. and less in another lying over the south of Denmark. Fall of barometer taking place later in the west and north of our Islands.

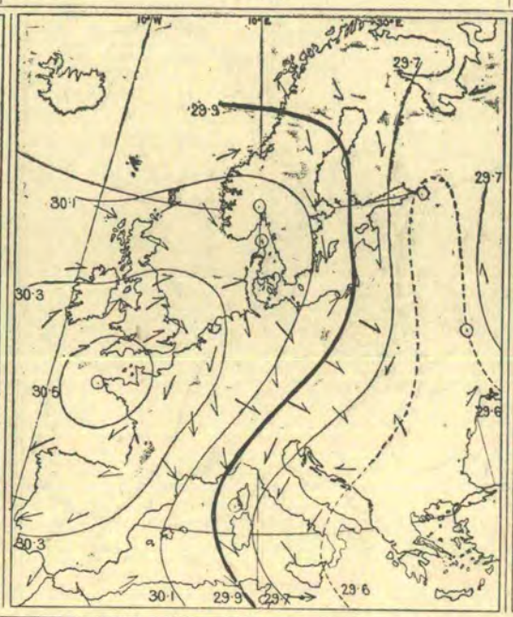
II.—SUMMARY OF WEATHER OVER EUROPE

Thursday, 28th March.

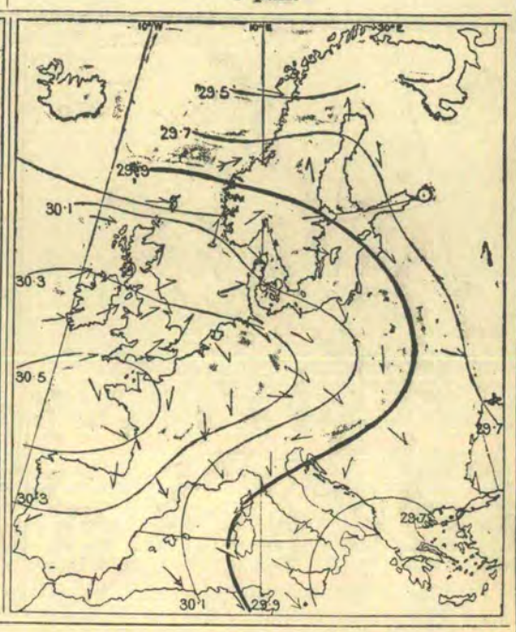
Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



6 p.m.



Weather fine over Sweden, Denmark, and the Baltic, as well as in the south and east of our Islands, the west of France, and the greater part of Spain. Cloudy or overcast elsewhere, with rain in the west of the United Kingdom, and snow at Kuopio, as well as at Cracow, Lemberg, and Munich. Slight rain falling later in most parts of the United Kingdom. Thunderstorm occurring at Algiers, and snow at Aumale.

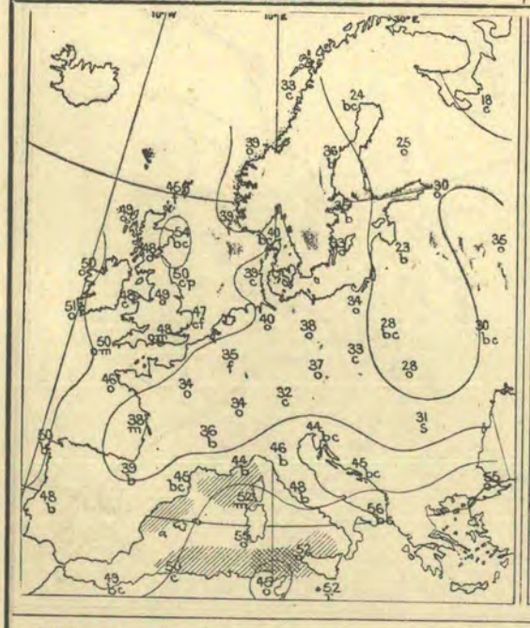
Temperature several degrees below the freezing point in Lapland (Haparanda 17° Faht.), and a little below over Sweden and Northern Russia; very little above 32° over Central England. Above 50° in the south-west of Ireland, and the coasts of the Iberian peninsula, and at the Mediterranean stations, highest reading of all being 57° at Brindisi. Subsequently rising to 60° at Wick and Nairn, to 59° at Parsonstown, and to 57° at Cambridge.

Wind South-Westerly over the greater part of the United Kingdom; moderate or fresh in force in the west, but light in the east. Northerly over by far the major portion of the Continent, but North-Easterly in France, Spain, and Italy, North-Westerly in Tunis, and Southerly in Western Algeria. Subsequently backing to the Southward in Sweden and to the North-Westward in the west of France.

Barometer highest, 30·40 ins. to 30·55 ins., in an anticyclone lying over the southern parts of our Islands, the west and north of France, the Bay of Biscay, and the north of Spain. Lowest, 29·6 ins. and less, in a long trough, extending northwards from Greece and the eastern parts of the Mediterranean across Western Russia to the south-east of Finland. Large depression subsequently advancing from the westward to the extreme north of Norway, and barometer falling briskly over Northern Europe.

Friday, 29th March.

Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**

6 p.m.

Weather fine in Sweden and the northern parts of the United Kingdom, as well as in Italy, Spain, and the south of France. Cloudy or overcast elsewhere, with mist or fog in the south of England, rain at Malta, and snow at Ulcaborg and Hermanstadt. Rain falling later in the western and northern parts of the United Kingdom.

Temperature several degrees below the freezing point over Lapland and Northern Russia (Archangel 18° Faht.); slightly below 32° over Western Russia; a little above 50° at some of the Irish and Scotch stations, and also over the Mediterranean, highest reading of all being 56° at Brindisi, but temperature at Aumale (Algeria), only 36°. Subsequently rising to 60° at Hurst Castle, 61° at Oxford, 62° at York and Loughborough, and 68° at Southampton.

Wind South-Westerly in the west of Ireland, but Westerly or North-Westerly in nearly all other parts of North-Western and Northern Europe; light or moderate in force generally, but strong to a gale in the north of Scandinavia; North-Easterly over the greater part of Southern Europe, but North-Westerly in Tunis and Southerly in Western Algeria. Subsequently veering to the Northward in Scandinavia, but not changing much elsewhere.

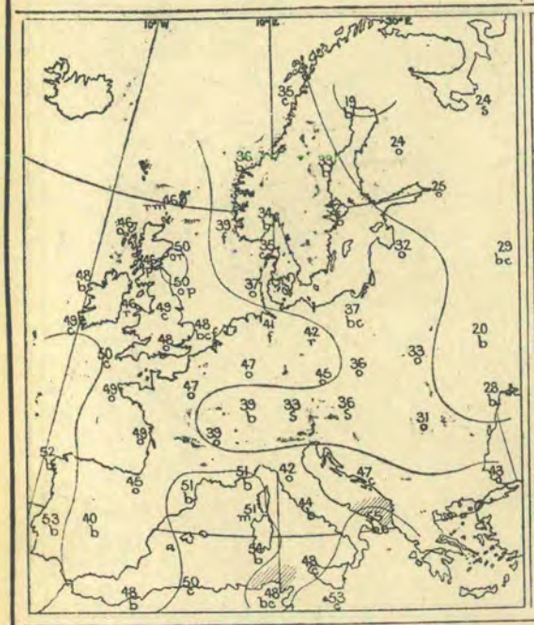
Barometer highest, 30·40 ins. to 30·55 ins., in an anticyclone lying over the Bay of Biscay, the greater part of France, the south-west of our Islands, and the north of Spain. Lowest, 29·3 ins. and less, in a depression lying over Lapland, but low, 29·6 ins. and less, in a large area lying over Central Russia. Depression over Lapland subsequently moving south-eastwards over Northern Russia, and barometer rising in Scandinavia.

II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 30th March.

Temperature and Weather.

8 a.m.



Barometer and Wind.

8 a.m.

6 p.m.

Weather dull and unsettled over our Islands, France, the North Sea, and Central Europe, with showers on our western and northern coasts, and rain or snow in Austria and Germany. Snow also reported at some of the Russian stations. Fine over Southern Europe, Sweden, and Central Russia. Rain falling later in all parts of the United Kingdom and also in the north of France, but amounts not large.

Temperature considerably below the freezing point in Lapland (Haparanda and Ulcaborg, 19° Faht.); below 32° over nearly the whole of Russia and also in the south of Sweden. Above 50° on the coasts of the Iberian peninsula, and also over the more central parts of the Mediterranean, highest readings of all being 56° at Barcelona and 55° at Brindisi. Subsequently rising to 55° or a little above in nearly all parts of Great Britain.

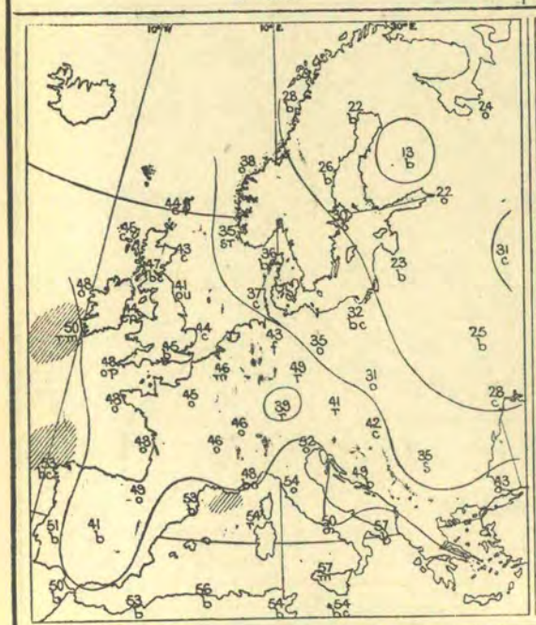
Wind light or moderate South-Westerly over England, but North-Westerly in nearly all other parts of Western and Central Europe. Light Northerly in Scandinavia and Northern Russia as well as over Central Italy; North-Easterly in Spain; variable in Algeria. Subsequently shifting to the westward over England and also over Italy; falling to a calm over the northern parts of Scandinavia.

Barometer highest, 30·3 ins. and upwards, in an anticyclone lying over the Bay of Biscay and the greater part of France and Spain, and also in another system lying over Central Algeria. Lowest, 29·3 ins., in a depression lying over Northern Russia; low, 29·9 ins. and less, in a shallow disturbance lying to the northward and north-eastward of Scotland. Latter system afterwards extending south-eastwards down the North Sea, and barometer falling in most parts of Western Europe.

Sunday, 31st March.

Temperature and Weather.

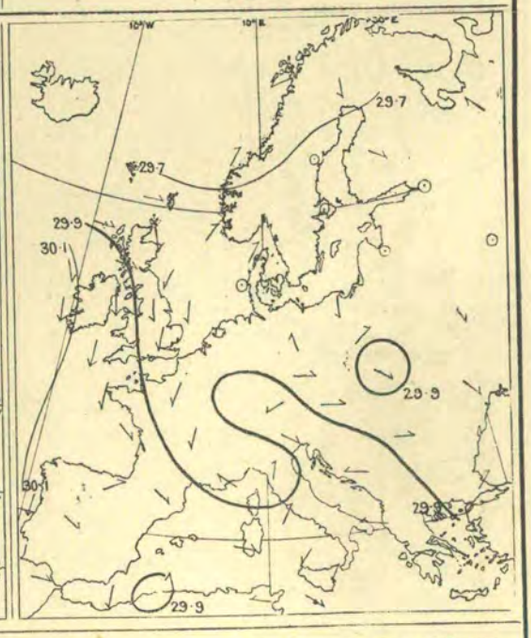
8 a.m.



Barometer and Wind.

8 a.m.

6 p.m.



Weather fine over Finland, the Baltic, and the north of Scandinavia as well as over Southern Europe and Algeria. Cloudy or overcast elsewhere, with showers in many parts of the United Kingdom, and snow or rain at several of the German and Austrian stations. Some improvement taking place later over the Northern parts of Great Britain, but thunder occurring at some of our southern stations during afternoon.

Temperature considerably below the freezing point over Lapland and Finland (Kuopio and Hangö, 13° Faht.); a little below 32° over Sweden and Russia generally. A little above 50° on the coasts of Portugal and above 55° at several of the Mediterranean stations, highest reading of all being 58° at Barcelona. No important change taking place during day, but slight frost occurring over the north of England at night.

Wind light or moderate from the North-Westward over our Islands and the west of France, and strong from the North-Eastward on the coasts of Portugal. Light from the Southward on the eastern shores of the North Sea, and from the Northward over Sweden and Western Russia. Variable over Italy and the central parts of the Mediterranean. Subsequently veering to the Northward in many parts of the United Kingdom.

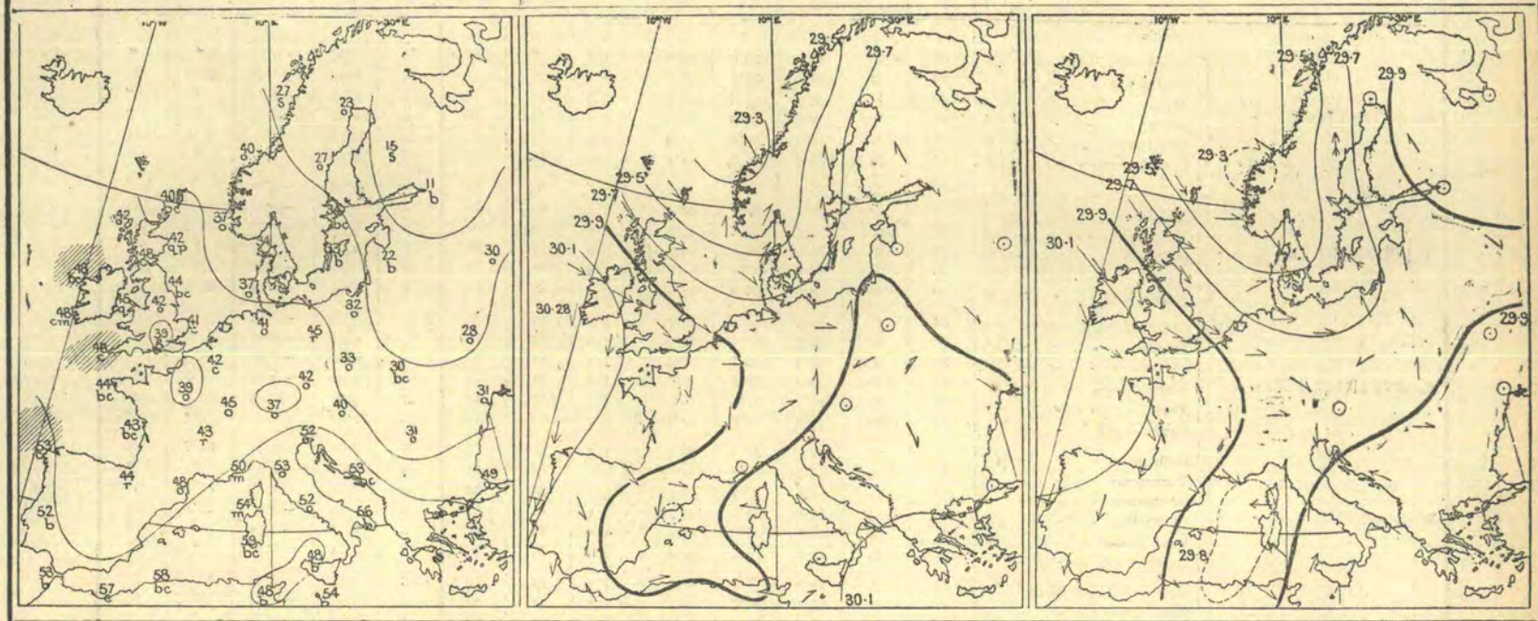
Barometer highest, 30·2 ins. and upwards, in an anticyclone lying to the north-westward of Spain; high, 30·1 ins. and upwards, over Tunis and Eastern Algeria; lowest, 29·6 ins. and less, in a large area lying over Central Russia, and 29·7 ins. and less in a depression lying off the west of Norway, the two systems being divided by a "col" extending from Central Europe to the north of Norway. Depression off west of Norway subsequently becoming rather more pronounced.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 1st April.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine over the greater part of Ireland and England, as well as over the Baltic, the Gulf of Finland, the west of France, the southern parts of Italy and Spain, and in Algeria. Cloudy elsewhere, with rain over Germany and the east of Denmark, sleet showers in the north of Scotland, and snow at Bodö, Kuopio, and Skagen. Showers of sleet or cold rain falling later in nearly all parts of the United Kingdom.

Temperature considerably below the freezing point over Finland (Hangö 9° Fahr.); below 32° over the greater part of Russia, and also in the north of Scandinavia. Above 50° on the coasts of the Iberian Peninsula, and above 55° at several of the Mediterranean stations, highest of all being 61° at La Calle. Frost occurring in the north of Scotland at night.

Wind Westerly or North-Westerly over the greater part of the United Kingdom; strong in force at some of our northern stations. Light to moderate from the Northward over France and Spain. Southerly in most other parts of Europe, but light from the Northward over the southern parts of Austria and Russia. Subsequently increasing to a fresh gale from the North-Westward in the north and north-east of Scotland.

Barometer highest, 30·2 ins. and upwards, in an anticyclone lying to the south-westward of our Islands; high, 30·1 ins. and upwards, over the eastern parts of the Mediterranean. Lowest, 29·3 ins. and less, in a depression lying off the west of Norway, but large area of relatively low readings, 29·8 ins. and less, reported over the southern parts of Central Russia. Depression off west of Norway subsequently moving south-eastwards, and barometer rising on our extreme northern coasts.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During this period the highest pressures have been found usually to the westward or south-westward of our Islands, but at the commencement of the week and again at its close an area of relatively high readings also appeared for a short time over Central Russia. Several depressions have advanced over Scandinavia and travelled thence in a south-easterly direction. As a rule these disturbances have been somewhat shallow, but on the 26th a rather deep system crossed the south of Norway, and occasioned North-Westerly gales in the north and east of Scotland. The depressions which have appeared over the Mediterranean have been less numerous than those of recent weeks, and with the exception of one which advanced from the southward to Italy on the 26th and subsequently dispersed, their character has been ill-defined.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
March 25, 1889	York	—	—	—	—	—	—	—	—	—	—	—	25·0	29

III.—DATA from which the SUMMARY on page 73 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ⚓	48	31	44·6	36·6	40·5	+ 0·3	7	20	6	0·42	−0·17	*	*
	Stornoway	54	29	48·6	37·1	42·7	+ 1·1	25	14	6	0·30	−0·47	20·8	23
	Wick	60	33	48·4	37·3	42·7	+ 2·3	25	13	6	0·54	+0·14	*	*
	Lairg ⚓	60	29	49·0	35·3	42·0	+ 1·8	20	19	6	0·53	−0·06	*	*
	Glencarron ⚓	51	25	46·7	35·6	41·0	0·0	13	25	6	1·73†	?	18·5	21
	Fort Augustus ⚓	57	27	50·6	36·9	43·6	+ 2·0	33	14	3	0·20†	?	*	*
1. SCOTLAND, E.	Nairn	60	33	50·4	38·3	44·2	+ 2·5	31	10	4	0·28	−0·08	*	*
	Aberdeen	59	31	49·6	37·3	43·3	+ 2·6	29	13	4	0·42	−0·09	29·6	33
	Braemar ⚓	60	25	49·8	34·2	41·8	+ 3·8	22	31	3	0·08	−0·50	30·2‡	34‡
	Ochtertyre ⚓	62	25	54·6	35·4	44·7	+ 2·9	47	18	1	0·01	−0·57	*	*
	Leith ⚓	55	31	52·0	37·1	44·3	+ 1·4	37	14	0	—	−0·33	*	*
	Marchmont ⚓	59	29	50·7	36·6	43·4	+ 2·6	32	15	2	0·06	−0·47	22·5	25
2. ENGLAND, N.E.	Alnwick Castle	54	29	48·3	38·3	43·2	+ 1·6	24	10	2	0·05	−0·45	*	*
	Durham	58	29	50·9	36·4	43·4	+ 1·8	33	16	2	0·08	−0·42	21·6	24
	Shields	56	30	50·1	36·7	43·2	+ 1·1	31	15	3	0·04	−0·35	*	*
	Scarborough ℳ	59	29	50·3	37·5	43·7	+ 1·7	31	13	3	0·24	−0·17	23·9‡	27‡
	York	62	32	52·1	37·3	44·5	+ 1·2	37	13	2	0·05	−0·34	22·2	25
	Spurn Head	55	33	47·9	37·9	42·8	− 0·1	23	11	3	0·09	?	*	*
3. ENGLAND, E.	Hillington ℳ	58	25	51·6	36·1	43·6	+ 1·6	36	17	5	0·28	−0·08	21·7	25
	Yarmouth	55	33	48·7	37·9	43·1	+ 0·2	25	11	3	0·38	−0·02	*	*
	Geldeston	57	31	51·0	37·1	43·8	0·0	33	14	4	0·16	−0·19	12·8	15
	Cambridge	58	23	53·7	34·3	43·7	− 0·1	44	22	4	0·14	−0·21	21·5	24
	Rothamsted	57	25	51·3	36·3	43·6	+ 0·8	35	16	4	0·25	−0·18	*	*
	Ingatestone	56	28	51·5	36·7	43·9	+ 0·3	36	15	3	0·14	−0·16	*	*
4. MIDLAND COUNTIES	Rawtry (Hesley Hall)	59	28	51·9	37·3	44·4	+ 1·8	37	13	3	0·05	−0·32	14·5‡	16‡
	Loughborough	62	27	53·1	36·7	44·7	+ 1·4	41	15	4	0·08	−0·29	19·1‡	22‡
	Cheadle ℳ	57	29	49·3	36·3	42·6	+ 0·4	28	16	4	0·42	−0·09	*	*
	Churchstoke ℳ	61	22	50·1	34·6	42·1	− 0·7	32	21	5	0·33	−0·07	28·3	32
	Hereford ℳ	61	27	52·4	36·5	44·2	+ 0·2	39	15	3	0·33	−0·02	*	*
	Cirencester	60	21	51·7	34·3	42·7	− 1·1	37	22	5	0·14	−0·35	27·0	31
	Oxford	61	27	52·4	35·7	43·8	− 0·8	39	18	4	0·18	−0·20	20·6	23
5. ENGLAND, S.	London	57	28	52·0	36·6	44·1	− 1·2	37	15	4	0·16	−0·21	15·1‡	17‡
	Strathfield Turgiss ℳ	62	25	54·4	35·1	44·5	+ 0·5	46	19	5	0·42	+0·04	*	*
	Dungeness	55	29	50·3	36·6	43·3	− 2·3	32	15	5	0·21	−0·21	*	*
	Hastings (St. Leonard's)	55	30	50·5	37·9	44·0	− 0·6	31	11	6	0·21	−0·23	27·8	32
	Southampton	68	28	55·0	37·6	46·5	+ 1·4	50	12	4	0·35	−0·12	31·7	36
	Hurst Castle	60	27	51·7	36·1	43·7	− 1·9	37	17	4	0·22	−0·21	*	*
	Stowell ℳ	57	28	50·2	36·8	43·3	− 0·4	31	15	3	0·17	?	33·7‡	38‡
6. SCOTLAND, W.	Laudale (Loch Sunart) ⚓	50	23	47·3	38·9	43·0	+ 1·1	20	9	6	0·82†	−0·40	*	*
	Glasgow	53	29	49·1	38·2	43·5	+ 0·9	26	11	3	0·11	−0·43	29·1	33
	Ardrossan	53	28	48·7	39·0	43·7	+ 1·1	25	8	5	0·36	−0·18	*	*
	Glenlee ⚓	54	21	50·1	35·9	42·8	+ 0·2	31	17	3	0·22	?	*	*
	Douglas (Isle of Man)	54	30	49·4	38·4	43·7	− 0·4	27	10	4	0·28	−0·32	35·7	40
7. ENGLAND, N.W.	Newton Reigny (Penrith)	53	30	49·0	36·4	42·5	+ 0·3	27	16	5	0·11§	−0·34§	26·2	29
	Barrow-in-Furness	50	31	47·4	38·6	42·9	− 2·0	21	10	6	0·42	−0·06	*	*
	Stonyhurst	54	31	47·8	37·2	42·3	− 0·9	22	13	6	0·33	−0·32	27·3	31
	Blackpool ℳ	50	32	46·6	38·6	42·5	− 2·3	18	10	2	0·13	−0·31	33·4	38
	Manchester	56	30	49·5	37·2	43·2	+ 0·4	29	13	6	0·41	−0·11	*	*
	Liverpool Obsr (Bidston)	52	32	47·9	38·7	43·2	− 1·6	22	9	4	0·38	+0·01	*	*
	Llandudno ℳ	55	33	49·0	39·8	44·3	− 0·8	25	6	6	0·33	−0·09	22·2	25
	Holyhead	56	36	49·7	41·4	45·4	— 0·3	26	2	5	0·24	−0·24	*	*
8. ENGLAND, S.W.	Llandovery	59	27	52·6	34·3	43·2	− 0·5	41	22	5	0·32	−0·37	*	*
	Pembroke	49	37	48·3	42·0	45·1	− 0·8	22	0	4	0·17	−0·33	35·7	41
	Arlington (N. Devon)	53	33	48·4	29·4	43·8	− 0·8	24	7	4	0·32	−0·39	*	*
	Cullompton ℳ	59	25	52·6	36 0	44·1	− 1·1	40	17	2	0·02	−0·57	33·1	38
	Falmouth	54	34	50·0	41·3	45·5	− 0·9	27	2	2	0·24	−0·51	40·6	46
	Plymouth	58	31	53·0	38·8	45·7	− 0·7	39	9	3	0·27	−0·31	39·5	45
	Prawle Point	56	33	51·3	37·6	44·3	− 1·4	35	12	2	0·38	?	*	*
9. IRELAND, N.	Malin Head	50	37	47·7	41·9	44·7	+ 1·8	19	0	5	0·73	?	*	*
	Londonderry	54	36	51·1	41·4	46 1	+ 1·4	31	2	5	1·12	+0·52	*	*
	Mullaghmore	53	35	51·3	42·3	46 7	+ 1·7	33	0	5	0·93	+0·35	*	*
	Belmullet	53	39	50·7	44·0	47·3	+ 1·0	37	0	5	0·71	?	*	*
	Markree Castle	59	27	51·8	40·0	45·7	+ 1·6	34	6	5	0·70	+0·13	26·6	30
	Brookeborough	54	28	50·6	37·8	44·0	+ 1·1	32	12	4	0·49	?	*	*
	Armagh	56	30	52·1	38·2	44·9	+ 0·7	36	11	5	0·36	−0·13	23·5	26
	Donaghadee	55	38	50·3	41·7	45·9	+ 1·0	29	1	7	0·66	+0·21	*	*
	Edgeworthstown	57	27	52·7	35·7	44·0	+ 1·4	40	18	5	0·21	−0·39	*	*
10. IRELAND, S.	Dublin	58	31	53·5	40·7	46·9	+ 1·7	40	4	4	0·18	−0·30	36·6	42
	Parsonstown	59	28	54·0	38·1	45·8	+ 0·8	43	11	4	0·14	−0·37	32·2	37
	Kilkenny	60	28	54·4	39·6	46·8	+ 2·8	44	7	4	0·22	−0·29	*	*
	Waterford	56	28	54·3	38·9	46·4	+ 0·8	44	9	5	0·21	−0·47	*	*
	Roche's Point	54	35	52·3	43·3	47·7	+ 1·8	40	0	1	0·02	−0·80	*	*
	Valencia	55	40	53·4	45·0	49·1	+ 2·2	50	0	6	0·61	−0·34	20·6	23
	Killarney	56	33	52·8	43·4	48·0	+ 2·8	42	0	3	0·43	?	*	*
	Foynes	58	33	53·0	44·0	48·4	+ 3·4	45	0	4	0·23	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	53	40	50·4	44·3	47·3	− 0·5	37	0	2	0·11	−0·44	*	*
	Jersey	52	32	50·4	41·0	45·6	− 0·3	29	3	3	0·10	−0·40	46·5	53

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ⚓ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, and Laudale being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the first and second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

§ The corresponding values for the week ending March 11th should be "0·34" and "− 0·26."

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON: R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VI. No. 14.] *Third Series.* WEEK ENDING MONDAY, 8TH APRIL, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 84.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	48	29	42·1	34·4	38·1	4 below.	0	−17	23	+ 3	89	− 27	439	+ 36
	1. SCOTLAND, EAST	49	28	41·1	34·5	37·7	5 below.	0	−23	30	+ 8	140	− 30	506	+ 22
	2. ENGLAND, N.E.	52	30	42·9	35·5	39·0	5 below.	3	−20	22	+ 4	126	− 50	461	+ 28
	3. ENGLAND, EAST	56	31	48·5	35·6	41·8	3 below.	18	−14	25	+ 7	147	− 89	582	+128
	4. MIDLAND COUNTIES	55	32	47·9	33·5	41·9	3 below.	17	−17	21	+ 2	168	− 89	523	+ 79
	5. ENGLAND, SOUTH	56	33	50·8	39·0	44·6	2 below.	31	− 5	8	− 5	180	− 97	435	+ 94
Principal Grazing, &c. Districts	6. SCOTLAND, WEST	49	33	44·4	36·4	40·2	4 below.	7	−19	20	+ 5	162	− 31	343	− 10
	7. ENGLAND, N.W.	51	31	45·9	36·8	41·1	4 below.	11	−17	19	+ 5	132	− 63	355	+ 7
	8. ENGLAND, S.W.	54	31	49·6	39·2	44·2	3 below.	27	− 7	8	− 2	220	− 83	392	+ 90
	9. IRELAND NORTH	55	34	46·9	39·2	42·9	3 below.	18	−12	8	− 5	231	− 17	277	− 38
	10. IRELAND, SOUTH	55	30	50·1	40·3	45·0	1 below.	28	− 9	5	− 5	324	− 25	204	− 12
	— CHANNEL ISLANDS	53	37	50·7	42·9	46·7	1 below.	33	− 4	0	− 2	321	− 40	77	− 14

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 84.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	5	5	1 more.	77	+11	14·5	+1·3	6	6	156	−72	17	− 7
	1. SCOTLAND, EAST	6	12	7 more.	58	+ 9	6·0	−2·4	4	5	211	−72	22	− 8
	2. ENGLAND, N.E.	6	11	7 more.	52	+ 4	6·0	−0·4	5	6	211	−22	22	− 2
	3. ENGLAND, EAST	5	4	0 (average).	52	+ 4	4·2	−1·7	19	20	216	−86	22	− 8
	4. MIDLAND COUNTIES	6	18	13 more.	49	+ 2	7·6	+0·3	12	13	204	−60	21	− 6
	5. ENGLAND, SOUTH	5	8	4 more.	52	+ 6	6·0	−1·4	23	25	210	−63	21	− 7
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	5	9	4 more.	63	+ 5	11·6	−2·6	6	6	218	−23	22	− 3
	7. ENGLAND, N.W.	5	9	5 more.	56	+ 5	7·1	−1·9	11	12	210	−26	21	− 3
	8. ENGLAND, S.W.	4	7	1 more.	52	− 3	10·0	−2·2	24	27	235	−30	23	− 4
	9. IRELAND, NORTH	5	10	4 more.	71	+ 8	9·7	+0·3	5	6	186	−74	18	− 9
	10. IRELAND, SOUTH	4	5	2 less.	59	0	9·1	−2·5	17	18	230	−38	26	− 4
	— CHANNEL ISLANDS	4	3	2 less.	62	+ 2	7·0	−2·4	32	35	329	−32	32	− 4

General Remarks.

Weather has been very dull, unsettled, and rainy in all parts of the Kingdom. Towards the end of the period the rainfall over the north-western and western parts of Central England was unusually heavy; at several stations on the 7th nearly an inch of rain was measured, and on the following day 1·66 ins. fell at Ross (Herefordshire), 1·90 ins. at Hereford, and 2·09 ins. at Churchstoke. Thunder and lightning were experienced in different parts of England between the 4th and 6th, and again over our south-western counties on the 7th and 8th.

Temperature has been below the mean in all districts, the deficit having been least (1° or 2°) in the south of England, the "Channel Islands", and south of Ireland, and greatest (5°) in the north-east of England and east of Scotland. The highest of the maxima, which were registered on somewhat irregular dates, varied from 48° in "Scotland, N." to 56° in "England, E." and "England, S." The lowest of the minima were recorded in most places on the 3rd, and ranged from 28° in "Scotland, E." to 34° in "Ireland, N." and 37° in the "Channel Islands".

Rainfall has been rather less than the mean in "Ireland, S." and the "Channel Islands", and equal to it in "England, E.", but more in all other districts; in the "Midland Counties" the fall has been nearly four times as much as the mean.

Bright sunshine has been very deficient generally, the percentage of the possible duration having ranged from 5 in "Scotland, E." and 6 in the north and west of Scotland, to 27 in "England, S.W." and to 35 in the "Channel Islands".

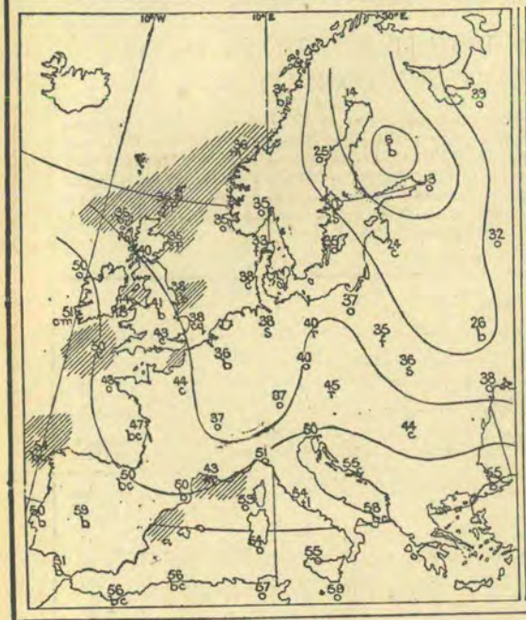
Barometer and Wind.—During the earlier part of the period a well-defined depression travelled slowly in a south-easterly direction over the United Kingdom, causing the wind to shift to the South-Eastward or Eastward in the north and east and to increase somewhat in force, while in the west fresh to strong North-Westerly winds were experienced. As this disturbance dispersed an irregularly shaped area of low pressure was formed in the south, and light breezes from the Eastward became general.

A 58292. 350.—4/89. Wt. 36. E. & S.

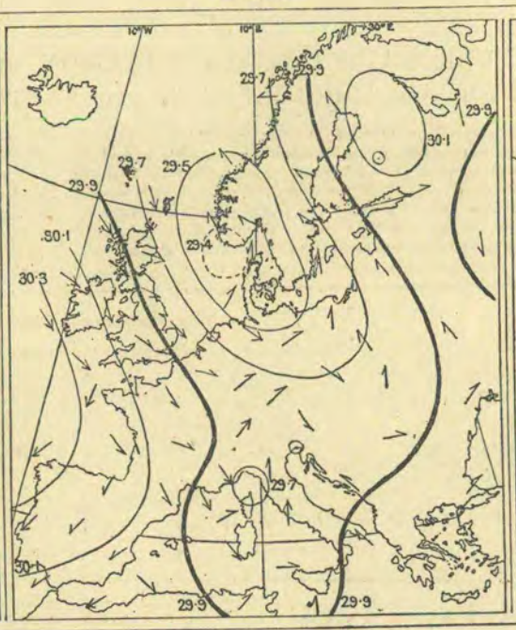
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 2nd April.

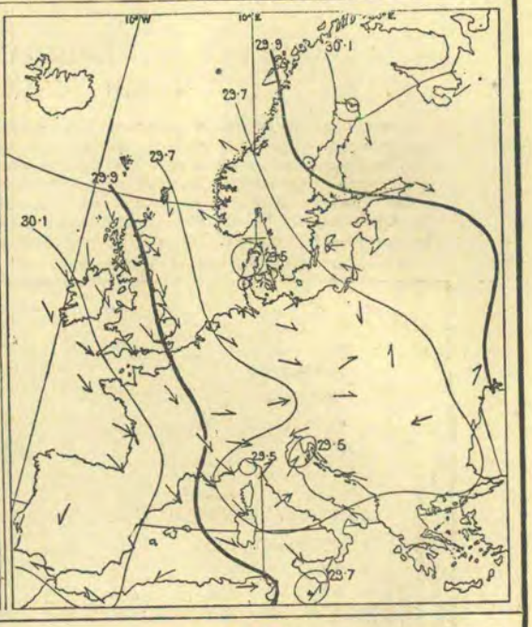
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine and bright over South-Western and some parts of Northern Europe, cloudy and unsettled elsewhere, with rain in many places; sleet and snow on our northern coasts, in Hungary, and the south of Russia. Rainfall slight at our own stations, but considerable in some parts of France, Italy, Hungary, and Southern Russia.

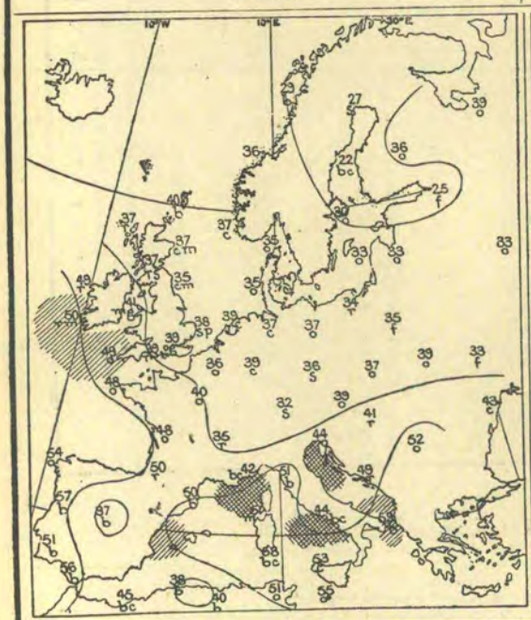
Temperature very low over Finland and the east of Lapland, rather low over the Baltic Provinces and south of Russia also; less cold over Western and Central Europe, and ranging between 55° and 60° at most stations in Spain and on the southern and eastern shores of the Mediterranean. Daily maxima of 60° to 70° in Italy, and 70° to 75° in some parts of Algeria, 52° to 54° in the south and south-west of our Islands.

Wind North-Westerly over our Islands and France, North-Easterly in Spain; strong in many places, and a gale in Scotland; South-Westerly to Southerly in Germany and Italy, and South-Easterly over the Baltic. North-Westerly winds moderating in our Islands later and spreading eastwards over the North Sea, North-Westerly gales setting in over the south of France and the northern parts of the Mediterranean, while in Italy the wind veered to South-Westward.

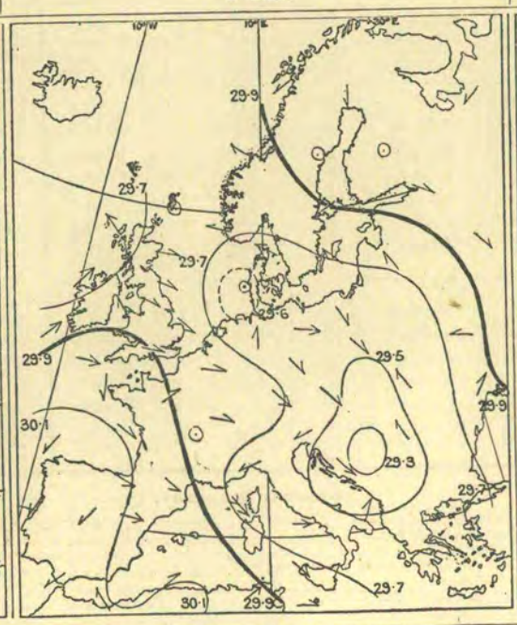
Barometer high, 30·1 ins. to 30·3 ins., over the western parts of the British Isles, France, Spain, and the Bay of Biscay; 29·9 ins. to 30·1 ins. over Finland and Northern Europe; lowest, 29·4 ins. and less, in a depression lying over the Skager Rack, and 29·7 ins. and less in a shallower system over the Gulf of Genoa. Former depression moving south-eastwards down eastern shores of the North Sea; latter spreading eastwards to Dalmatia and becoming more complex.

Wednesday, 3rd April.

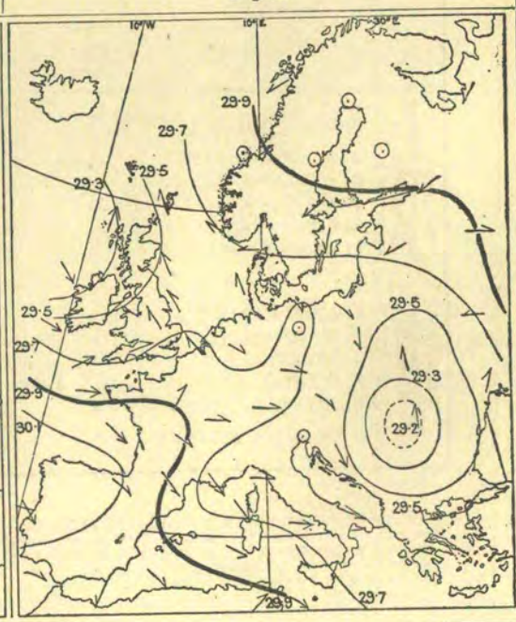
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine in extreme south of our area and over Norway, very changeable and unsettled elsewhere; rain in many localities, snow and sleet in others, fog in Western Russia. Rainfall (including snow) heavy over Hungary later, and considerable in many parts of our Islands and France.

Temperature rising decidedly over Northern Europe, falling a little and irregularly elsewhere; morning readings below the freezing point over Lapland, Sweden, and the south of Russia only, but very little above it over Germany and Central Europe, and Central Spain. Rising considerably during the day over England and the Continent generally.

Wind extremely variable—South-Westerly to South-Easterly over Ireland and Scotland, Northerly to North-Westerly over the Channel and west of France, North-Easterly over Spain; very variable over Central and Eastern Europe, Easterly in Norway, North-Westerly, strong to a gale, over the Mediterranean. South-Westerly and Southerly winds spreading all over the Kingdom later, but beginning to veer towards West and North-West in Ireland.

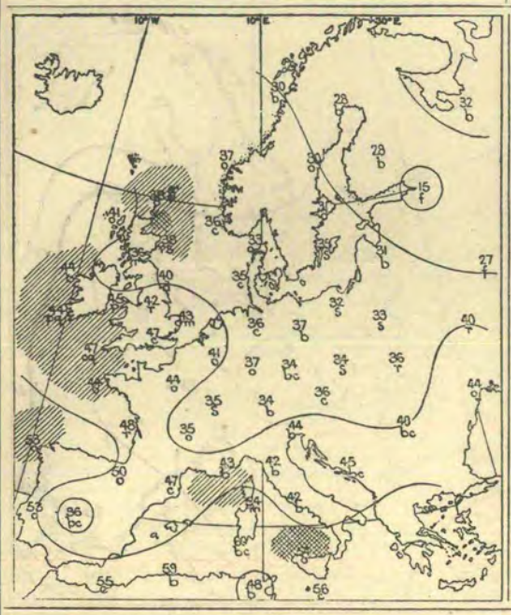
Barometer somewhat high both over South-Western and Northern Europe; comparatively low over the British Islands, Central and South-Eastern Europe, with depressions over Dalmatia and Holland, and another one advancing towards the north west of the British Islands from the north-westward. The latter system becoming more decided during the day, and moving south-eastwards.

II.—SUMMARY OF WEATHER OVER EUROPE

Thursday, 4th April.

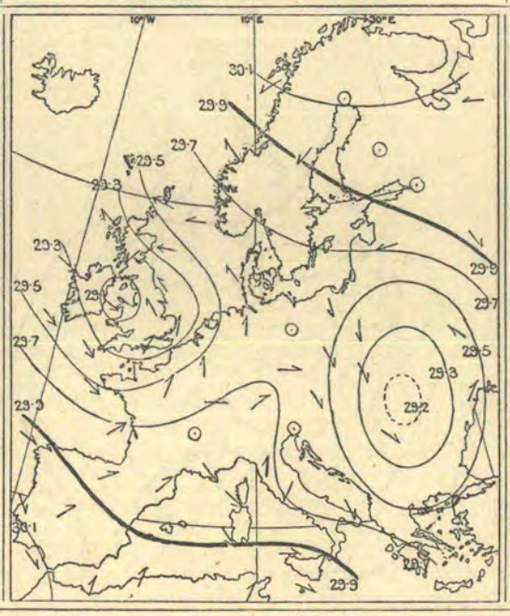
Temperature and Weather.

8 a.m.

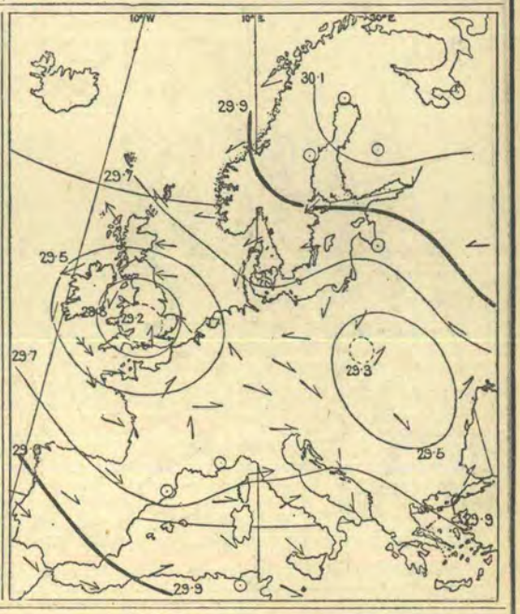


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine in the extreme south and extreme north of Europe and in Austria, unsettled, squally, and showery in our Islands, with rain and snow in the north, rain in southern Russia, snow in Hungary. Rain or sleet falling very generally over Western Europe later—heaviest in the south-west of France—much snow in Poland and Hungary.

Temperature changing irregularly; risen rather decidedly over the eastern half of England. Morning readings below the freezing point over northern Europe only, but very little above it in Poland and eastern Germany; highest, above 50°, in the extreme south-west of Europe, and in southern Italy. Highest reading of all 60° at Cagliari. Daily maxima 70° to 77° at the Algerian stations, 50° to 55° in some parts of our Islands.

Wind strong North-Westerly over the western parts of our Islands and Brittany, Westerly over Spain and the south-west of France, Southerly over Western Germany and Holland, South-Easterly in Scotland, Easterly over the Baltic and Northern Europe generally. An independent cyclonic circulation prevailing over Poland, Hungary, and South-Western Russia. The Easterly wind extending over nearly the whole of the United Kingdom later.

Barometer still high (relatively) over Northern and South-Western Europe, low (29·1 ins. and less) in a depression moving in a south-easterly direction over our Islands, and (29·3 ins. and less) in another depression over Austro-Hungary; gradients rather steep round both systems. Depression over our Islands beginning to fill up very slowly as it moved south-eastwards.

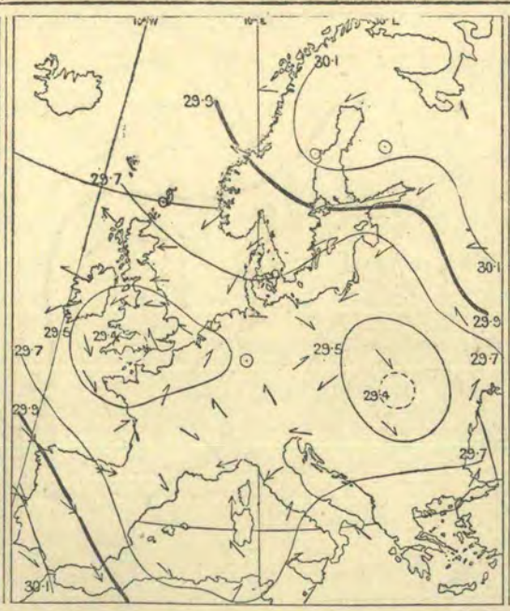
Friday, 5th April.

Temperature and Weather.

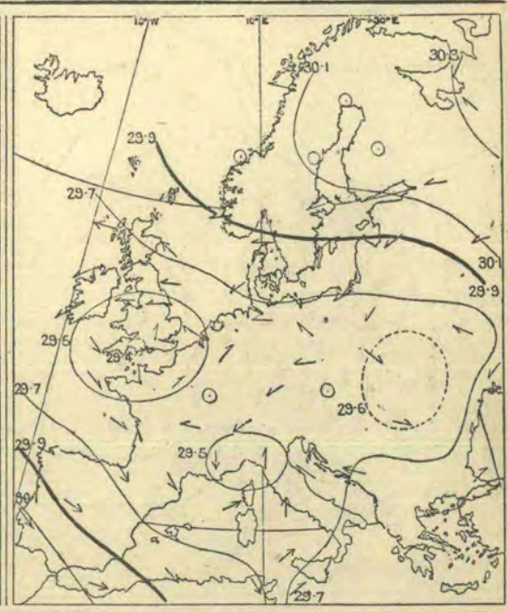
8 a.m.

Barometer and Wind.

8 a.m.



6 p.m.



Weather fine in Scandinavia, and also over Central Spain and the south of Italy. Cloudy elsewhere, with showers in many parts of the United Kingdom, steady rain in Algeria, the south of France, and at Brussels, and snow at some of the German and Austrian stations. Fog prevailing over the south of Russia. Steady rain falling later in the north of England, and thunderstorms occurring in some parts of our southern counties.

Temperature below the freezing point over the north of Sweden and Central Russia, lowest reading being 24° at Haparanda; below 40° over nearly the whole of Northern, Central, and Eastern Europe. Above 50° on the coasts of the Iberian Peninsula, and also at most of the Mediterranean stations, highest reading of all being 59° at La Calle. Daily maxima below 45° over the northern parts of the United Kingdom.

Wind light to fresh from the Eastward over Northern Europe generally, and also over the northern parts of our Islands. North-Easterly on our north-west coasts, North-Westerly in the south-west of England, as well as over the Bay of Biscay and Spain. Light South-Westerly or Southerly over Italy; variable over Central Europe. No important change occurring during day.

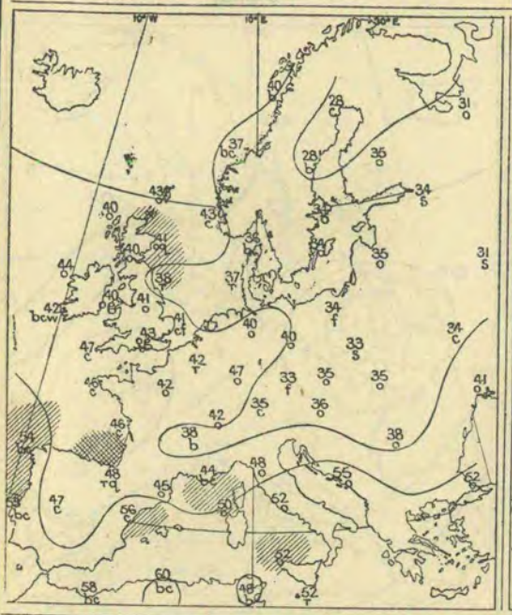
Barometer highest, 30·1 ins. and upwards, in a large area lying over the north of Sweden and Northern and Central Russia, and also in a second area lying to the south-westward of the Iberian Peninsula. Lowest, 29·4 ins. and less, in a depression lying over the south of England, and also in another disturbance lying over the south-east of Austria; low, 29·5 ins. and less, in a third system lying over the Gulf of Genoa and the south-east of France. Depression over south of England filling up slowly during day.

II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 6th April.

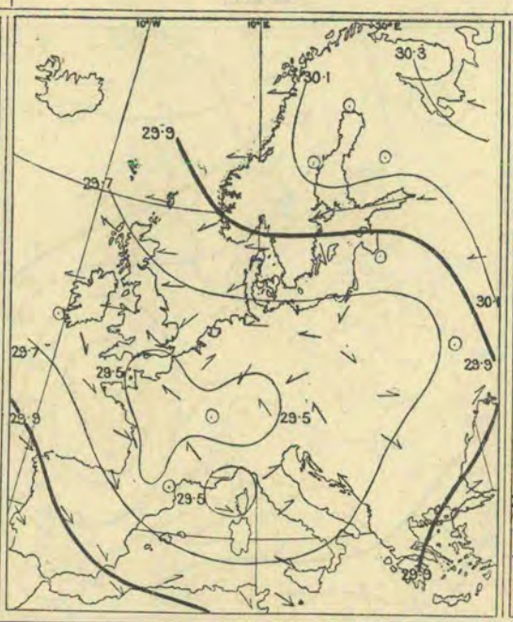
Temperature and Weather.

8 a.m.

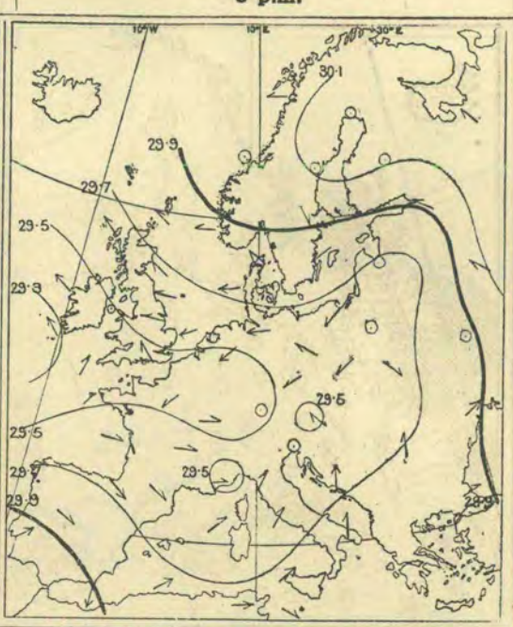


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine in Scandinavia, as well as in south-west of our Islands, the south of France, Spain, and Algeria. Cloudy or overcast elsewhere, with showers in the northern parts of the United Kingdom, steady rain in Holstein, the Netherlands, and the south of Italy, and snow at several of the Russian stations. Heavy rain falling later in many parts of Spain and Italy; and thunder heard in the north of London.

Temperature a little below the freezing point over Central Russia and the north of Sweden, lowest reading being 28° at Haparanda and Hernösand; below 40° over the whole of Northern, Eastern, and Central Europe, as well as over Central England. Above 50° on the coast of the Iberian peninsula, as well as at several of the Mediterranean stations, highest reading of all being 60° at Algiers. Daily maxima below 45° in the north and east of England.

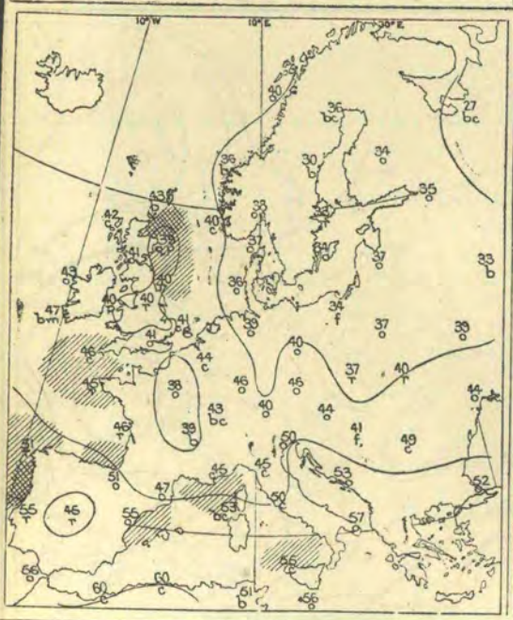
Wind Easterly or North-Easterly over the whole of Eastern Europe, as well as in the eastern and south-eastern parts of Great Britain, but South-Easterly on our extreme north-west coasts. Light or moderate from North-West over our south-west coasts and the west of France; fresh to strong from the same quarter in Spain. Light from the South-Westward or Westward over Algeria and Italy. Strong South-Easterly breeze setting in later in the south of Ireland.

Barometer highest, 30·3 ins. and upwards, over the White Sea: high, 30·0 ins. and upwards, over the southern parts of Spain and Portugal. Lowest, 29·5 ins. and less, in a large area lying over the Channel, France, and South Germany, and also in a well-marked depression lying over the Gulf of Genoa. Brisk fall of barometer setting in later on our western coasts, and new depression appearing off the south-west of Ireland.

Sunday, 7th April.

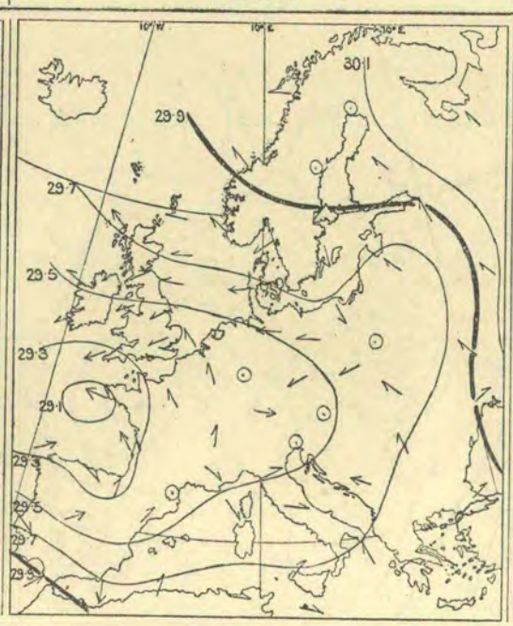
Temperature and Weather.

8 a.m.

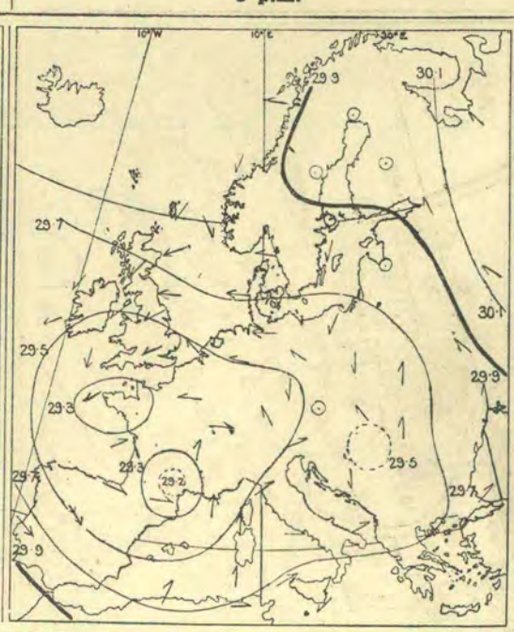


Barometer and Wind.

8 a.m.



6 p.m.



Weather unsettled generally, except over the Northern and Eastern parts of Europe; rain in many parts of the British Islands, Spain and Portugal (in the later regions the fall had been large), and in Hungary. Large quantities of rain in many parts of the south-west and south of France later, the fall at Cette exceeding 2·5 ins. Fair and dry in London.

Temperature risen over Russia, Austria, and South Germany, changing little and irregularly elsewhere. Morning readings below the freezing point over some parts of Northern Europe; above it elsewhere, but rather low for the time of year in most places. Daily maxima exceeding 70° over Algeria and the southern parts of Italy, and slightly exceeding 50° in the south-east of our Islands, but scarcely rising above 40° in Scotland and the north-east of England.

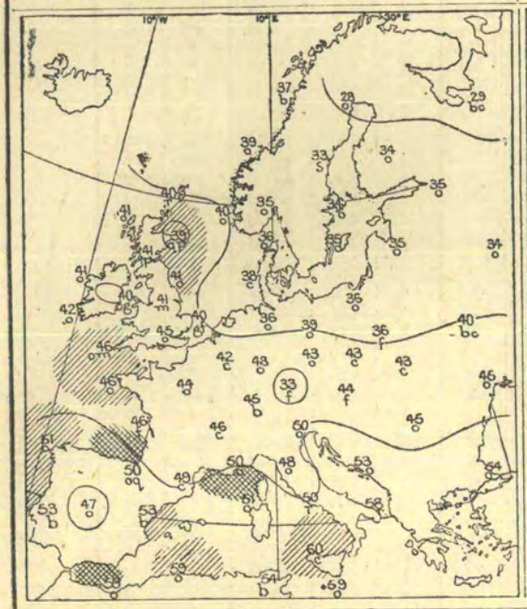
Wind Easterly (North-Easterly to South-Easterly) over the northern half of Europe, and blowing strongly in several places Westerly and South-Westerly; strong to a gale over Spain; Westerly light to moderate over the Mediterranean, Southerly in France. South-Westerly and Westerly gales in the neighbourhood of the Pyrennees later; but the Easterly wind moderating over the British Islands, and backing to North-East in Ireland.

Barometer (after falling fast over Western Europe) beginning to rise a little in the north-west. Pressure somewhat high both over North-Eastern and South-Western Europe, a well-formed depression found over the Bay of Biscay at 8 a.m., to which position it had advanced from the north-westward; disturbance moving north-eastwards and filling up later, while a new one was formed near Biarritz and moved eastwards.

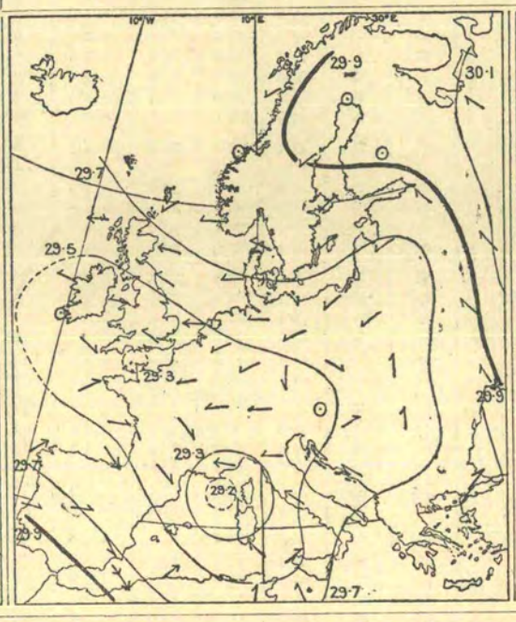
II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 8th April.

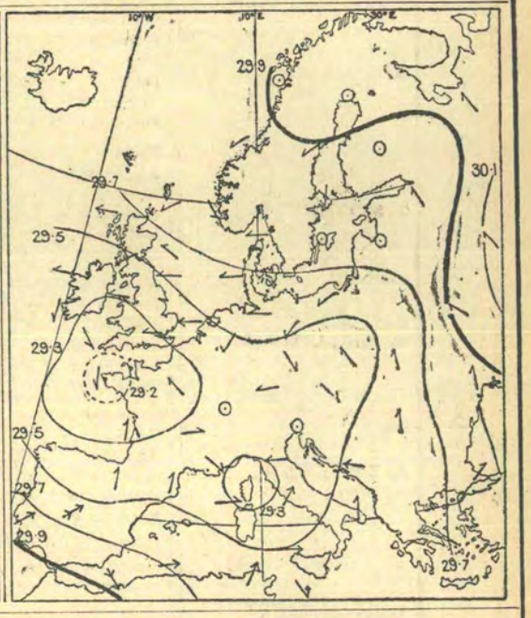
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather slightly improved over the United Kingdom as a whole, but not in Wales and the western districts of England, where large quantities of rain fell locally, snow over the Gulfs of Finland and Bothnia; considerable falls of rain later over Southern Europe and the Mediterranean, that at Rome amounting to three quarters of an inch.

Temperature not changing materially; morning readings below the freezing point in the extreme north of Europe only, but above 50° in Portugal and on the shores of Mediterranean only. Daily maxima exceeding 70° at Palermo and Biskra only, but rising above 60° in several parts of France, and reaching 56° at Cambridge and in London.

Wind still Easterly over Germany and the northern half of Europe, Westerly over Spain, variable in the Channel, but much less strong than on the 7th. Complete cyclonic circulation of strong winds and moderate gales prevailing over the Mediterranean; extending to Italy later, but moderating at the more western stations.

Barometer remaining relatively high both over North-Eastern and South-Western Europe; rather low between those regions; gradients slight. Well-formed depression (29·2 ins. and less) near Toulon at 8 a.m., and moving eastwards across Corsica towards night; shallow one lying over the Channel, and another over Brittany later.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

Throughout the week barometric pressure has been relatively high, both over North-Eastern and South-Western Europe, and low over the intermediate regions. Depressions of no great depth have appeared from time to time over South-Eastern Europe, while others have advanced over the North Sea and British Islands from the north-westward, and filled up on reaching Germany or France, as the case may have been. On Sunday a well formed depression reached the Bay of Biscay from the north-westward; it then moved eastwards to Brittany and filled up, while another system was developed near Biarritz, and, travelling along the northern foot of the Pyrenees, reached the neighbourhood of Toulon on Monday morning, and Corsica the same evening. The weather has consequently been changeable; a great deal of rain has fallen in some localities, and snow in Northern and Central Europe. Temperature has been low over Western Europe, but has increased greatly over Russia; very little frost was experienced during the last day or two, even in Finland.

III.—DATA from which the SUMMARY on page 79 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	46	31	43·9	33·9	38·7	− 2·6	5	28	2	0·04	−0·50	*	*
	Stornoway	46	33	42·9	35·4	39·0	− 3·5	3	23	5	0·56	−0·10	4·6	5
	Wick	45	30	41·7	34·7	38·0	− 3·6	0	28	7	0·56	+0·18	*	*
	Lairg ℳ	42	29	39·0	32·3	35·5	− 5·6	0	46	6	1·16	+0·64	*	*
	Glencarron ℳ	48	30	41·5	34·0	37·6	− 4·4	0	31	7	0·53†	−0·51	6·5	7
	Fort Augustus ℳ	47	32	?43·6	?36·0	?39·6	? − 3·2	?4	?21	2	0·08†	?	*	*
1. SCOTLAND, E.	Nairn	45	31	42·1	35·3	38·6	− 4·2	0	23	7	0·43	+0·10	*	*
	Aberdeen	43	32	41·4	36·1	38·6	− 3·3	0	24	6	0·85	+0·34	5·6	6
	Braemar ℳ	41	28	38·6	31·8	35·0	− 4·6	0	40	7	0·94	+0·40	4·3‡	5‡
	Ochtertyre ℳ	47	32	41·3	34·4	37·7	− 5·2	0	30	6	2·18	+1·64	*	*
	Leith	49	33	43·0	35·7	39·2	− 5·0	3	22	6	0·67	+0·32	*	*
	Marchmont ℳ	44	30	40·4	33·6	36·8	− 5·7	0	36	6	2·17	+1·62	2·4	3
2. ENGLAND, N.E.	Alnwick Castle	42	32	40·3	36·1	38·1	− 4·6	0	27	6	2·15	+1·63	*	*
	Durham	45	30	42·8	33·8	38·1	− 4·7	2	28	6	1·12	+0·62	4·7	5
	Shields	44	31	41·7	34·9	38·1	− 5·5	0	27	6	1·01	+0·59	*	*
	Scarborough ℳ	46	34	42·0	35·3	38·7	− 4·8	0	23	5	1·32	+0·88	2·0‡	2‡
	York	52	33	46·4	36·1	41·0	− 3·8	12	22	6	0·84	+0·43	9·5	10
	Spurn Head	47	30	44·1	36·7	40·2	− 3·9	6	19	6	0·53	?	*	*
3. ENGLAND, E.	Hillington ℳ	55	33	47·9	34·8	41·0	− 2·6	17	27	5	0·27	−0·13	16·7	18
	Yarmouth	44	33	43·3	36·4	39·7	− 4·8	4	19	5	0·48	+0·07	*	*
	Geldeston	52	31	47·0	35·5	41·0	− 4·5	14	25	6	0·44	+0·11	17·6	19
	Cambridge	56	33	52·1	34·7	43·0	− 2·6	38	20	5	0·46	+0·07	21·6	24
	Rothamsted	54	33	50·0	36·0	42·7	− 2·4	30	17	5	0 62	+0·14	*	*
	Ingatestone	53	34	50·5	36·3	43·1	− 1·8	32	16	3	0·23	−0·11	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	55	33	48·3	36·6	42·2	− 1·9	24	15	6	1·17	+0·78	11·6‡	13‡
	Loughborough	52	35	49·3	37·3	43·0	− 2·2	27	13	6	0·95	+0·56	13·6‡	15‡
	Cheadle ℳ	50	32	45·1	34·9	39·8	− 3·6	9	26	7	0·71	+0·20	*	*
	Churchstoke ℳ	49	32	45·5	35·8	40·4	− 4·4	10	22	6	3·64	+3·24	4·1	4
	Hereford ℳ	52	34	49·2	37·9	43·3	− 2·3	26	11	7	3·61	+3·21	*	*
	Cirencester	50	35	49·0	35·7	42·0	− 3·1	20	18	5	1·35	+0·85	12·9	14
	Oxford	53	34	49·1	37·0	42·8	− 3·6	27	14	7	0·94	+0·54	16·7	18
5. ENGLAND, S.	London	56	35	53·1	38·4	45·4	− 1·4	39	10	4	0·22	−0·20	19·3‡	21‡
	Strathfield Turgiss ℳ	54	33	51·5	37·3	44·1	− 1·5	34	13	7	0·95	+0·54	*	*
	Dungeness	53	34	50·0	39·6	44·6	− 2·4	28	7	4	0·22	−0·19	*	*
	Hastings (St. Leonard's)	55	36	50·1	39·4	44·5	− 1·5	28	7	2	0·30	−0·16	32·5	36
	Southampton	55	33	52·0	40·1	45·8	− 0·8	35	5	7	0·88	+0·40	26·3	29
	Hurst Castle	53	39	50·3	40·3	45·1	− 1·8	29	5	5	0·87	+0·45	*	*
	Stowell ℳ	51	33	48·4	37·8	42·9	− 2·0	24	12	7	2·26	?	13·7‡	15‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	48	33	45·7	36·5	40·9	− 2·6	10	20	2	0·62†	−0·41	*	*
	Glasgow	45	34	42·6	35·7	39·0	− 4·8	2	21	7	0·96	+0·43	2·4	3
	Ardrossan	49	34	45·3	35·3	40·1	− 3·7	9	24	5	0·61	+0·03	*	*
	Glenlee ℳ	46	33	43·1	35·3	39·0	− 4·8	3	23	5	0·98†	+0·26	*	*
	Douglas (Isle of Man)	48	37	45·5	39·2	42·2	− 3·5	13	8	7	1·36	+0·79	8·6	9
7. ENGLAND, N.W.	Newton Reigny (Penrith)	46	31	43·9	34·9	39·2	− 4·2	5	25	4	0·57	+0·14	6·7	7
	Barrow-in-Furness	50	37	45·7	37·7	42·0	− 4·1	13	12	5	0·70	+0·23	*	*
	Stonyhurst	50	34	45·3	36·0	40·4	− 4·2	9	22	6	0·61	+0·02	15·3	17
	Blackpool ℳ	51	35	47·8	36·6	41·9	− 3·9	16	21	4	1·13	+0·71	11·8	13
	Manchester	50	33	45·4	36·1	40·5	− 3·4	10	21	3	0·56	+0·06	*	*
	Liverpool Obsy (Bidston)	51	34	46·7	36·7	41·5	− 4·3	13	20	7	1·24	+0·87	*	*
	Llandudno ℳ													
	Holyhead	48	37	45·7	39·7	42·6	− 4·2	14	6	6	1·77	+1·32	*	*
8. ENGLAND, S.W.	Llandovery	53	33	48·4	36·6	42·2	− 3·2	24	15	7	1·28	+0·60	*	*
	Pembroke	49	40	47·6	41·7	44·5	− 2·5	19	1	4	0·34	−0·16	17·4	19
	Arlington (N. Devon)	51	36	48·1	38·3	43·0	− 3·5	23	10	4	1·04	+0·33	*	*
	Cullompton ℳ	54	31	51·2	38·0	44·3	− 2·3	33	11	4	0·69	+0·09	15·2	17
	Falmouth	53	38	50·6	41·3	45·7	− 1·9	29	2	4	0·64	−0·11	32·5	36
	Plymouth	54	37	52·6	40·2	46·1	− 1·7	36	5	4	0·51	−0·08	31·1	34
	Prawle Point	52	34	49·0	38·3	43·4	− 3·4	25	10	4	0·39	?	*	*
9. IRELAND, N.	Malin Head	50	37	44·9	38·9	41·8	− 2·2	8	12	5	1·27	?	*	*
	Londonderry	52	36	47·3	38·6	42·7	− 2·4	19	10	5	1·27	+0·69	*	*
	Mullaghmore	52	38	47·1	41·6	44·2	− 2·1	17	1	5	0·83	+0·37	*	*
	Belmullet	52	37	49·9	41·6	45·6	− 1·3	27	1	4	0·51	?	*	*
	Markree Castle	55	37	48·5	39·5	43·8	− 1·7	23	7	4	0·66	+0·08	8·0	9
	Brookeborough	52	34	45·4	37·4	41·2	− 3·7	10	17	6	1·11	?	*	*
	Armagh	53	35	45·7	37·8	41·6	− 4·0	10	16	6	1·65	+1·15	2·1	2
	Donaghadee	47	38	46·0	39·9	42·8	− 3·0	14	6	7	0·77	+0·32	*	*
	Edgeworthstown	53	34	47·4	37·3	42·1	− 2·5	20	13	6	0·63	+0·04	*	*
10. IRELAND, S.	Dublin	53	38	47·5	40·5	43·8	− 2·7	19	4	5	0·70	+0·22	2·2	2
	Parsonstown	54	36	49·4	39·4	44·2	− 1·2	26	7	3	0·44	−0·06	11·6	13§
	Kilkenny	54	36	48·7	40·3	44·3	− 0·9	23	5	4	0·44	−0·07	*	*
	Waterford	55	34	50·9	39·7	45·0	− 1·8	31	6	4	0·30	−0·38	*	*
	Roche's Point	54	39	50·7	42·9	46·6	− 0·3	32	0	4	0·32	−0·49	*	*
	Valencia	55	34	52·6	40·9	43·5	− 1·3	36	3	3	0·56	−0·39	35·6	39
	Killarney	55	30	51·1	38·4	44·5	− 2·0	33	10	3	0·67	?	*	*
	Foynes	55	37	50·0	40·2	44·9	− 0·9	28	5	3	0·37	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	52	40	50·3	43·9	47·0	− 1·6	35	0	4	0·17	−0·40	*	*
	Jersey	53	37	51·1	41·9	46·3	− 0·7	31	0	4	0·51	+0 02	31·5	35

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked Ⓢ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

§ The corresponding value for the week ending March 11th should read "51."

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 15.] *Third Series.* WEEK ENDING MONDAY, 15TH APRIL, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

DISTRICTS. (See p. 90.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
	°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	53	27	45·6	34·0	39·5	4 below.	10	−10	28	+10	99	− 37	497	+ 47
1. SCOTLAND, EAST	55	25	44·7	35·2	39·8	4 below.	8	−19	25	+ 8	148	− 47	531	+ 32
2. ENGLAND, N.E.	49	30	43·7	36·9	40·1	5 below.	5	−22	18	+ 4	131	− 68	479	+ 34
3. ENGLAND, EAST	52	31	46·3	36·7	41·3	6 below.	12	−29	20	+ 6	159	−109	602	+135
4. MIDLAND COUNTIES	53	28	46·3	36·1	41·0	6 below.	12	−27	22	+ 7	180	−113	548	+ 89
5. ENGLAND, SOUTH	57	35	48·9	39·2	43·8	4 below.	24	−17	8	− 2	204	−110	443	+ 93
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	53	29	46·8	36·4	41·4	4 below.	13	−19	22	+10	175	− 50	368	+ 1
7. ENGLAND, N.W.	51	30	46·2	36·8	41·3	6 below.	12	−21	20	+ 9	144	− 86	375	+ 19
8. ENGLAND, S.W.	55	29	49·4	37·5	43·3	5 below.	23	−10	13	+ 6	257	− 93	315	+ 97
9. IRELAND NORTH	53	29	47·2	37·7	42·4	4 below.	21	−14	12	+ 1	252	− 31	239	− 35
10. IRELAND, SOUTH	55	27	49·8	36·5	42·9	5 below.	29	−11	15	+ 7	353	− 34	219	− 4
— CHANNEL ISLANDS	55	39	49·9	42·9	46·2	3 below.	29	−12	0	− 1	350	− 53	77	− 15

Rainfall. Bright Sunshine.

DISTRICTS. (See p. 90.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
		10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	6	5	1 more.	83	+14	15·0	+1·4	34	35	190	− 78	18	− 8
1. SCOTLAND, EAST	5	5	0 (average).	63	+10	6·5	−2·3	13	14	224	− 83	21	− 8
2. ENGLAND, N.E.	5	4	1 less.	57	+ 5	6·4	−0·4	7	7	218	− 32	20	− 3
3. ENGLAND, EAST	6	6	2 more.	58	+ 6	4·8	−1·5	8	8	224	−105	21	− 9
4. MIDLAND COUNTIES	5	9	4 more.	54	+ 4	8·5	+0·8	7	7	211	− 77	19	− 7
5. ENGLAND, SOUTH	5	5	1 more.	57	+ 8	6·5	−1·3	7	8	217	− 87	20	− 8
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	2	2	3 less.	65	+ 4	11·8	−2·8	22	23	240	− 32	22	− 3
7. ENGLAND, N.W.	4	6	2 more.	60	+ 5	7·9 *	−1·5	11	12	220 *	− 42	20	− 4
8. ENGLAND, S.W.	3	5	2 less.	55	− 3	10·5	−2·4	25	27	291	− 39	27	− 3
9. IRELAND, NORTH	3	3	2 less.	74	+ 8	10·0	0·0	23	24	209	− 83	19	− 8
10. IRELAND, SOUTH	3	2	5 less.	62	− 1	9·3	−3·0	30	31	290	− 42	27	− 4
— CHANNEL ISLANDS	4	1	4 less.	66	+ 2	7·1	−2·9	21	23	350	− 55	32	− 4

General Remarks.

Weather has been fairer than it was last week in Ireland and Scotland, but over the greater part of England the sky has been densely overcast, with occasional falls of rain. On the 10th and 11th the Metropolis was visited by a thick black fog. Thunder and lightning were experienced in different parts of eastern and southern England on the 11th or 12th.

Temperature has continued below the mean in all districts, the deficit having ranged from 3° in the "Channel Islands" to 5° in the south of Ireland and the south-west and north-east of England and to 6° over eastern, central, and north-western England. The highest of the maxima, which were recorded on rather irregular dates, ranged from 49° in "England, N.E." to 57° in "England, S." The lowest of the minima, which were registered in some localities at the commencement and at others towards the end of the period, varied from 25° to 29° in Scotland, from 27° to 29° in Ireland, and from 28° to 35° over England; in the "Channel Islands" the lowest reading was 39°.

Rainfall has been rather more than the mean in most of the English districts, as well as in the north of Scotland. In Ireland, the south-west and north-east of England, the "Channel Islands", and the west of Scotland the fall has been less than the normal.

Bright sunshine has continued very deficient in most parts of England, but shows an increase in Ireland and Scotland. The percentage of the possible duration ranged from 35 in "Scotland, N.", 31 in "Ireland, S.", and 27 in "England, S.W." to less than 10 over central, southern, and eastern England.

Barometer and Wind.—During the earlier part of the period the barometer continued lowest over the south of our Islands and the Channel, and highest in the north. Towards the end of the week, however, the cyclonic systems in the south dispersed, and pressure became highest in the west and lowest in the east. Under these conditions Easterly and North-Easterly winds were generally prevalent during the first part of the time and subsequently light to moderate breezes from between North and North-East.

* This value has been altered slightly owing to the receipt of further information.

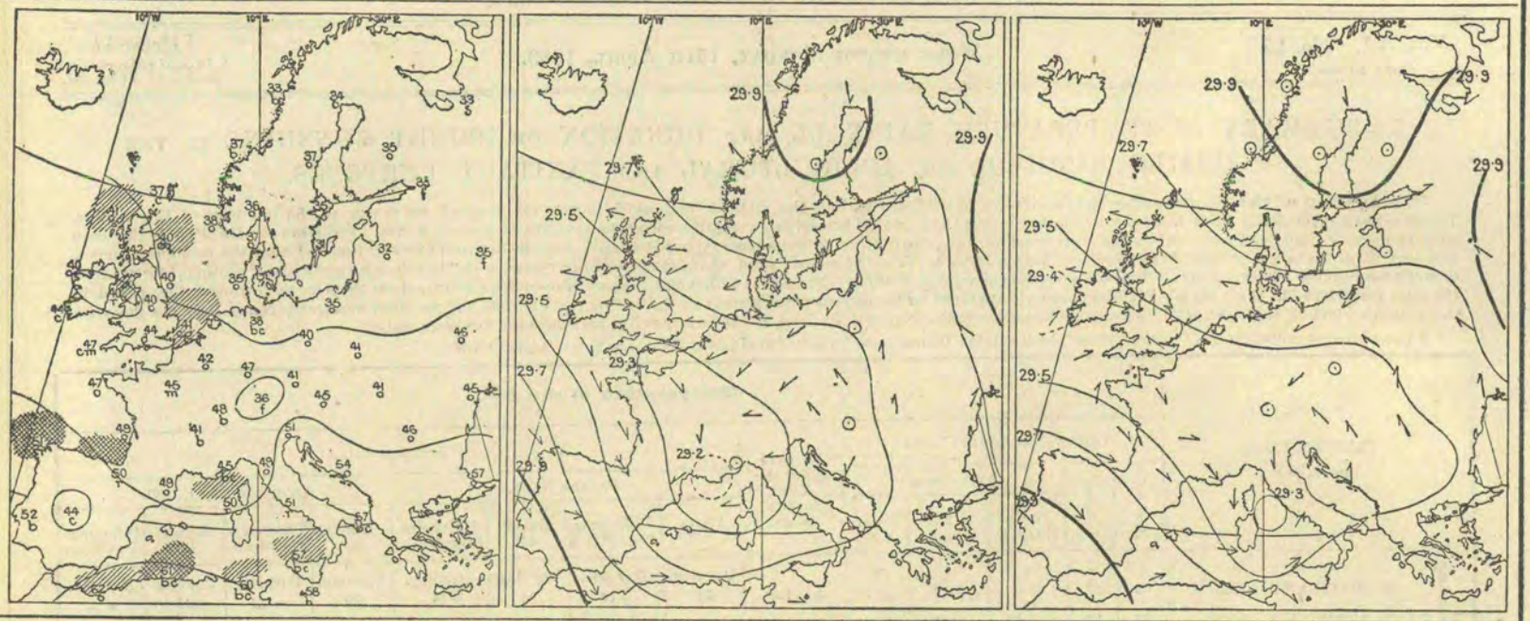
A 58402. 350.—4/89. Wt. 36. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 9th April.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine in the east of Norway and some parts of Scotland as well as in Algeria and the southern parts of Spain and Italy. Cloudy or overcast elsewhere, with fog at some of the Russian stations, rain over the south-eastern parts of England and France, and snow at Archangel. Heavy rain falling later over the central districts of England, France, and Austria, and smaller amounts in Italy.

Temperature lowest, 35° or less, over the Baltic and the northern parts of Scandinavia and Russia, as well as over Central Ireland; below 40° over Northern Europe generally. Above 50° on the coasts of Spain and Italy, and a little above 60° at some of the Algerian stations, highest reading of all being 68° at Oran. Daily maxima below 45° over the northern parts of the United Kingdom, but a little above 50° in the extreme south.

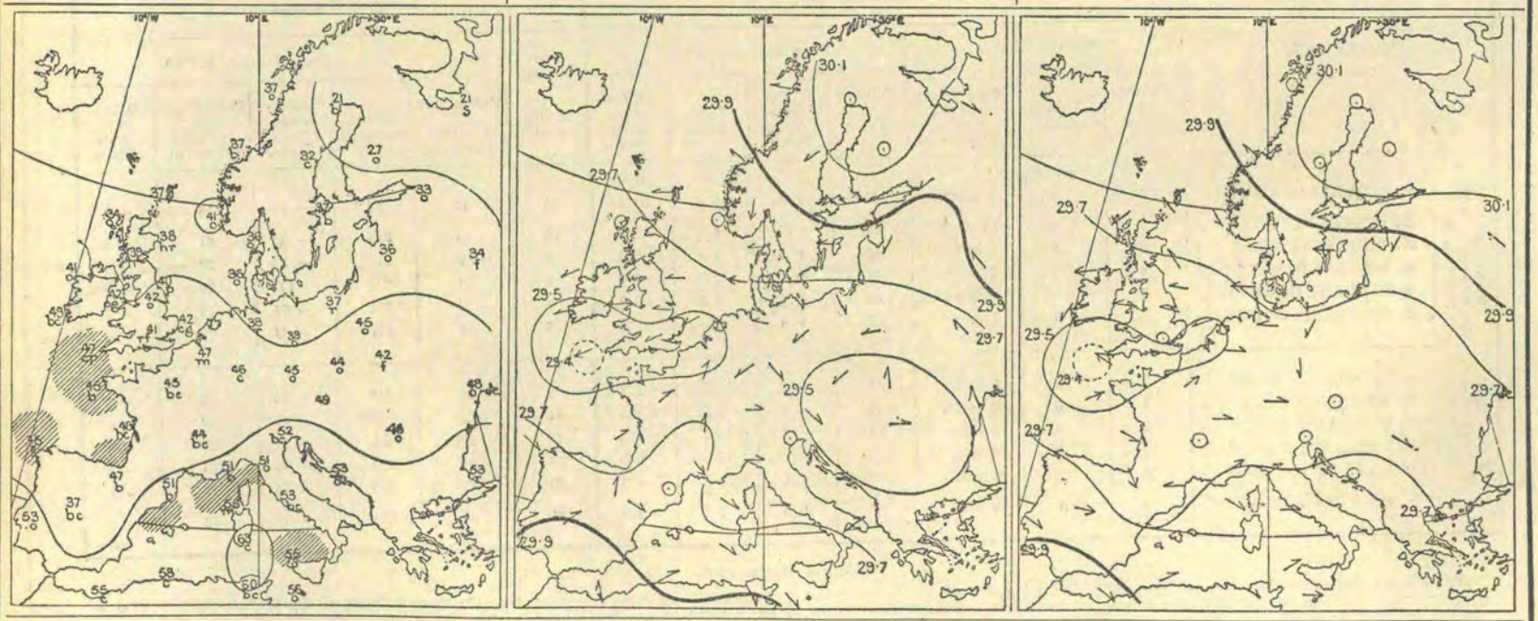
Wind light to fresh from the Eastward over nearly all the more northern countries, but light or moderate from the North-Westward over the south-west of our Islands and the west of France, and strong from the same quarter over Spain, the south-west of France, and Western Algeria. Moderate South-Westerly breezes reported over Southern Italy, but Westerly gales blowing at Algiers and Aumale. Moderate gale from Westward setting in later over Sicily and Sardinia.

Barometer highest, 30·0 ins. and upwards, over Central Russia, but high, 29·9 ins. and upwards, over the north of Scandinavia and also over the extreme south of Spain. Lowest, 29·1 ins. and less, in a small depression lying over the Gulf of Lyons, but low, 29·3 ins. and less, in a large area covering nearly the whole of France, with the north of Italy, the adjacent parts of the Mediterranean, and the extreme south-east of England. Rise of barometer taking place later in most parts of Western Europe, and low pressure system partially filling up.

Wednesday, 10th April.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine over France and Southern Europe generally, as well as in the north of Scotland. Cloudy or overcast elsewhere, with rain and mist in many parts of the United Kingdom, and also in Germany; fog at several of the Russian stations and snow at Archangel, Uleaborg, and Helsingfors. Heavy rain falling later in parts of England and France, largest amount being 0·7 in. at Loughborough. Dense high fog drifting over London in morning, causing intense darkness.

Temperature several degrees below the freezing point over the northern parts of Sweden and Russia (Haparanda and Archangel, 21° Faht.); below 40° over Northern Europe generally. Above 55° at several of the Mediterranean stations, highest readings of all being 63° at Cagliari and 61° at Sfax. Daily maxima below 45° in nearly all the more northern parts of the United Kingdom, and frost occurring in the north of Scotland at night.

Wind light to fresh from the Eastward or North-Eastward over Ireland, England, and the greater part of Northern Europe. Light or moderate from between North-West and South-West over France, Spain, Italy, and Algeria. Light North-Westerly airs reported in the east of Scotland, and cyclonic circulation of light breezes over Austria and the south of Russia. No important change occurring during day.

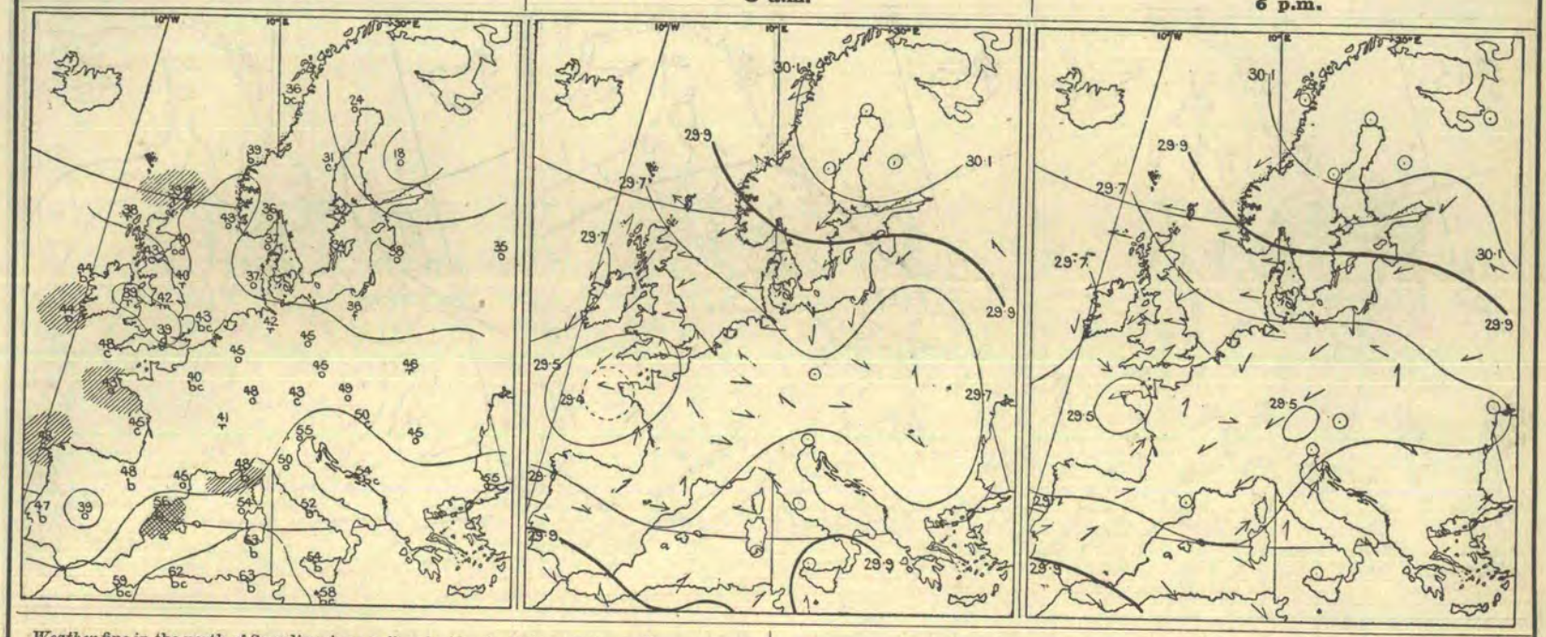
Barometer highest, 30·2 ins. and upwards, over Lapland; high, 30·0 ins. and upwards, over Central Russia; relatively high, 29·9 ins. and upwards, over Algeria and the south of Spain. Lowest, 29·4 ins. and less, in a large shallow depression lying over Southern Austria, and also in two small disturbances lying respectively at the mouth of the Channel and over the north of Belgium. Large trough of low readings, 29·5 ins. and less, covering the whole of the Channel, the southern parts of England and Ireland, Belgium, and the extreme north of France. No decided change later.

II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 11th April.

Temperature and Weather. **8 a.m.**

Barometer and Wind. **8 a.m.** **6 p.m.**



Weather fine in the north of Scandinavia as well as in Algeria, Italy, and the southern parts of France and Spain. Cloudy or overcast elsewhere, with rain in many parts of the United Kingdom as well as at some of the German and Austrian stations. Fog reported on the southern shores of the Baltic. Heavy rain falling later in some parts of England and France, largest amount being 0·6 in. at Ushant; thunder and lightning occurring locally over the south of England.

Temperature lowest over Central Finland (Kuopio, 18° Faht.); a little below the freezing point over the northern parts of Sweden and Russia generally; below 40° over the whole of Northern Europe as well as in some of the central parts of Great Britain and Spain. Above 55° at most of the Mediterranean stations, highest readings of all being 63° at Cagliari and La Calle, and 62° at Algiers. Daily maxima below 45° in many of the western and northern parts of the United Kingdom; frost occurring in some parts of Great Britain at night.

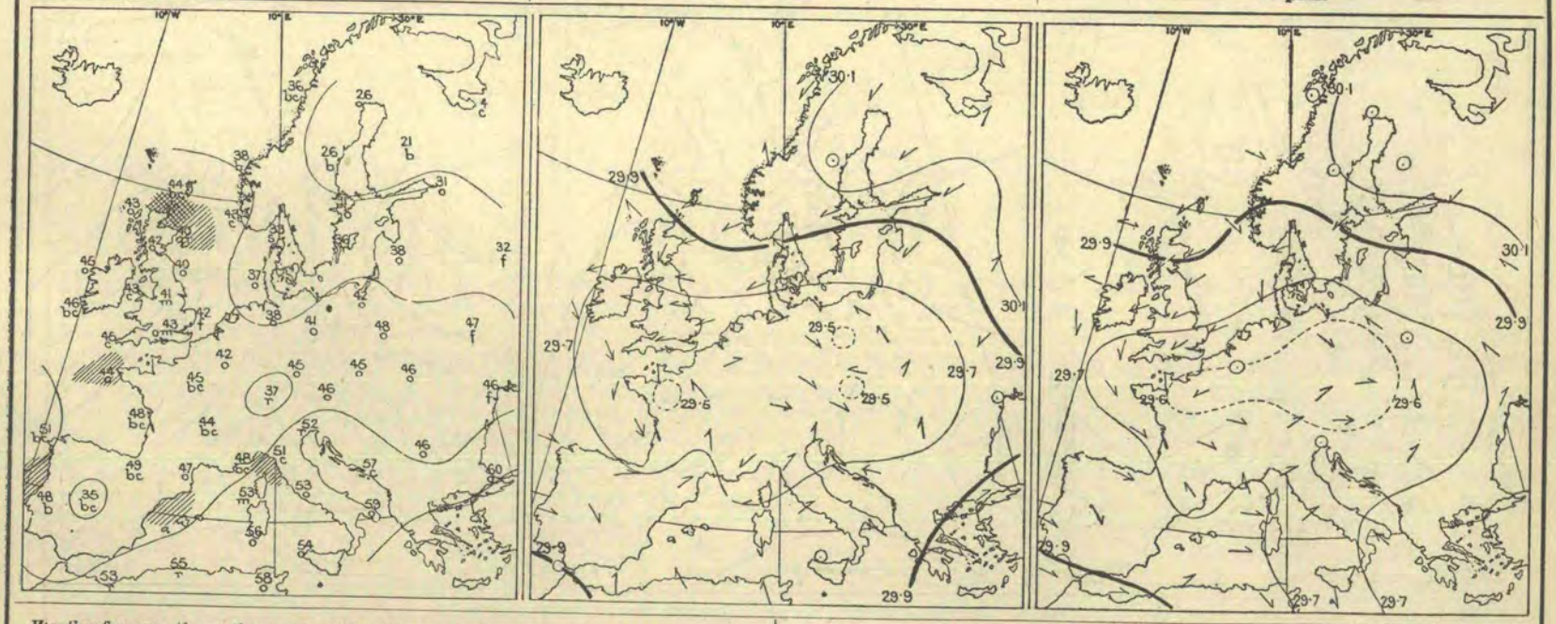
Wind light or moderate from the Eastward or North-Eastward over the greater part of Northern Europe, and fresh from North-East in the west of our Islands. Moderate from the South-Eastward over the north and east of Great Britain and the north of France, Westerly or South-Westerly over the greater part of Southern Europe. Subsequently backing to the Northward over Ireland and the South-West of England, but not changing much elsewhere.

Barometer, highest, 30·2 ins. and upwards, over Finland, and high, 30·1 ins. and upwards, over all the northern parts of Scandinavia and Russia. Relatively high, 29·9 ins. and upwards, over Algeria, the south of Spain, and the extreme south of Italy; 29·7 ins. and upwards in an area which was beginning to appear off the west of Ireland. Lowest, 29·4 ins. and less, in a small depression lying off the north-west of France; low, 29·6 ins. and less, in a large shallow disturbance lying over Eastern Austria. Depression off north-west of France subsequently moving slowly eastwards and partially filling up.

Friday, 12th April.

Temperature and Weather. **8 a.m.**

Barometer and Wind. **8 a.m.** **6 p.m.**



Weather fine over the northern parts of Scandinavia and Russia, as well as in Spain, France, and Northern Italy. Cloudy or overcast elsewhere, with fog over Central and Southern Russia, and rain in many parts of the United Kingdom and Germany, as well as in Algeria. A little rain falling later in some parts of France, and snow in Denmark, but weather improving in Ireland and Scotland. Thunderstorms occurring locally over the south of England.

Temperature very low on the shores of the White Sea (Archangel 4° Faht.); below the freezing point over the northern parts of Scandinavia and Russia generally; below 40° over Norway and Denmark, as well as over the central parts of England, Ireland, and Spain. Above 50° on the shores of the Iberian Peninsula, and above 55° at several of the Mediterranean stations, highest reading of all being 60° at Sfax. Daily maxima below 45° over the central and eastern parts of the United Kingdom.

Wind light to fresh from the Eastward or North-Eastward over nearly the whole of Northern Europe and the greater part of our Islands, but strong from the South Eastward in the north of Scotland. Light and variable over Central Europe, but moderate from the North-Westward in the west of France, and light from West or South-West over Spain and Italy, and from South in Algeria. Subsequently veering to East in the north of Scotland.

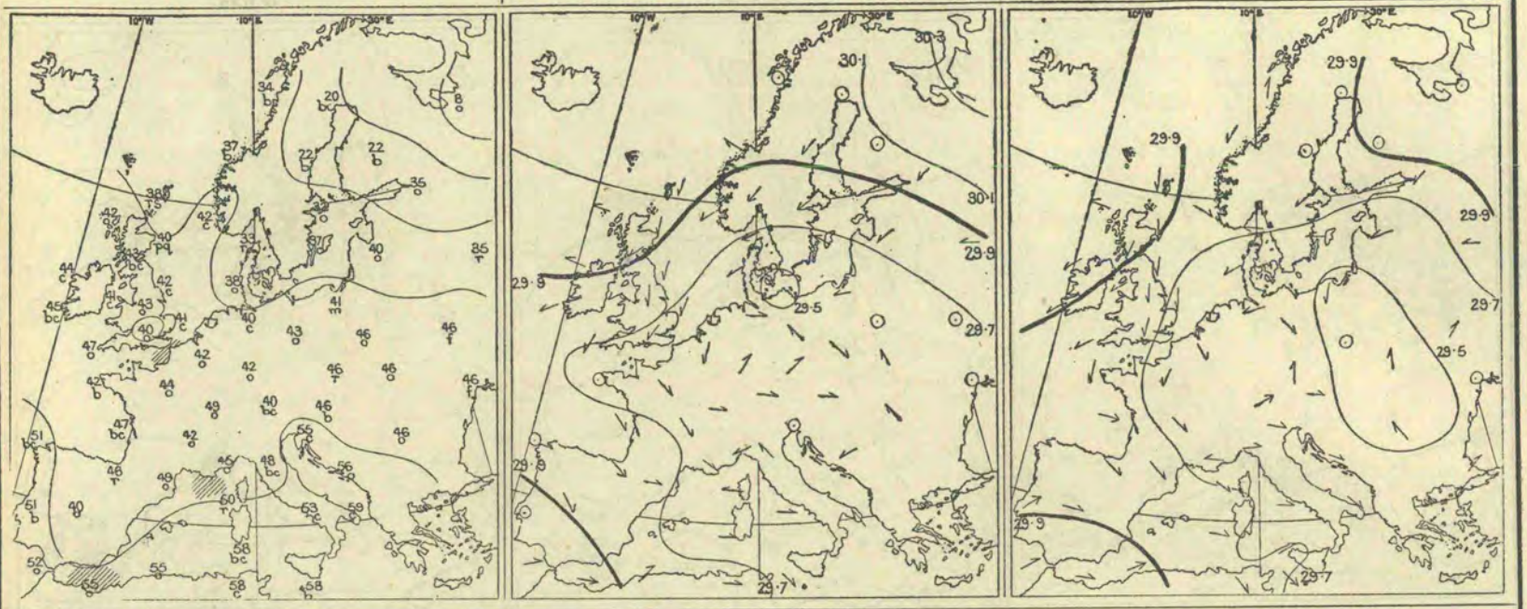
Barometer highest, 30·2 ins. and upwards, over Lapland and Finland, but high, 29·9 ins. and upwards, to the southward of Spain, and apparently over Central Algeria. Lowest, 29·5 ins. and less, in three small depressions, two lying over Eastern Germany and the other over the north of France; large trough of low readings, 29·6 ins. and less, extending from Poland and Eastern Austria to the north of France and the south of England. Depressions all beginning to fill up later, and barometer rising in most parts of Europe.

II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 13th April.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine and bright over the northern parts of Scandinavia and in Finland, fair over Ireland, South-Western Europe, and Algeria, cloudy and changeable elsewhere—with showers in several places. Snow at Færder and fog in Southern Russia. Showers in many parts of Great Britain and on the Continent later, large quantities of rain at Lisbon and Leghorn, and a considerable amount in Hungary and the south of Russia.

Temperature changing but little; morning readings considerably below the freezing point over Northern Europe, and as low as 8° Faht. at Archangel, not much above the freezing point even in Denmark and the south of Sweden. Above 40° over the United Kingdom, and as high as 55° to 58° on the southern shores of the Mediterranean. Rising to between 60° and 70° over Algeria and the south of Italy later, but not reaching 50° in our Islands, except at isolated stations on our extreme west and south coasts.

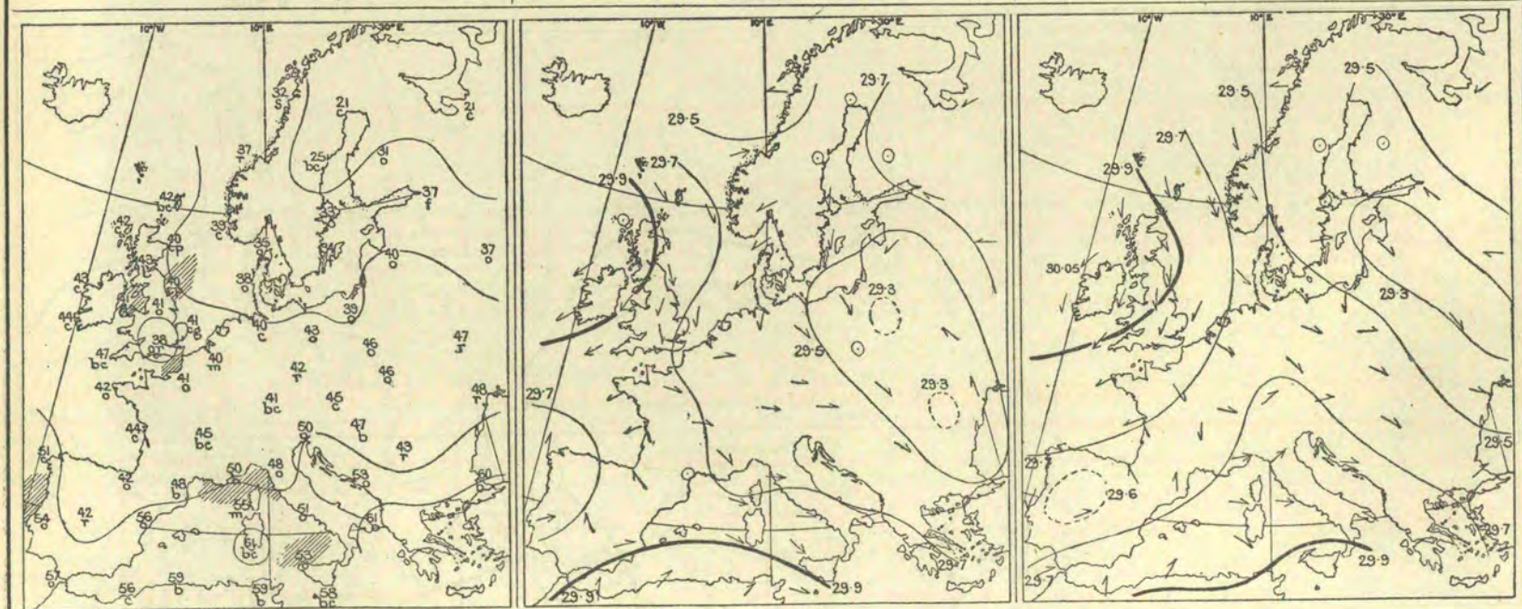
Wind Easterly and North-Easterly over all the northern districts, moderate in our Islands, strong in the Skager Rack and south of Sweden; North-Westerly and Westerly (light) over South-Western Europe, variable over the Southern and Central countries. Moderate gale from North-North-East over the North Sea later; little change elsewhere.

Barometer highest, 30·0 ins. to 30·3 ins., over Finland and the north of Russia, 29·9 ins. to 30·0 ins. over Scotland and the north of Ireland, and also over the south-western half of the Spanish Peninsula; lowest, 29·7 ins. and less, over France and the whole of Central Europe, and rather below 29·5 in small "*minima*" lying over the Rhine Provinces, Poland, and near Holstein; the latter moving west-north-westwards at 8 a.m., but subsequently dispersing over the North Sea.

Sunday, 14th April.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather in a rather changeable condition except in the extreme west of our Islands and on the southern shores of the Mediterranean; some rain falling in several places in all countries of Europe, snow at Bodö. Rainfall trifling during day, except in Spain and the southern parts of France and Russia, where it was considerable.

Temperature showing little change except in Northern Russia, where it had risen decidedly. Very little below the freezing point at 8 a.m., even at the most northern stations, and very little above it over Scandinavia generally. Remaining below 60° even in the far south, except at Brindisi, where it stood at 61°. Daily maxima at the Algerian stations varying from 70° to 79°, those in the south of Italy ranging from 65° to 70°, but scarcely exceeding 50° in our Islands, and at some stations not rising above 45°.

Wind North-North-Easterly over the United Kingdom, rather fresh; extremely variable in other countries and remaining so during day. Strong South-Westerly to North-Westerly breezes felt in the west of Norway, but Easterly airs in Lapland.

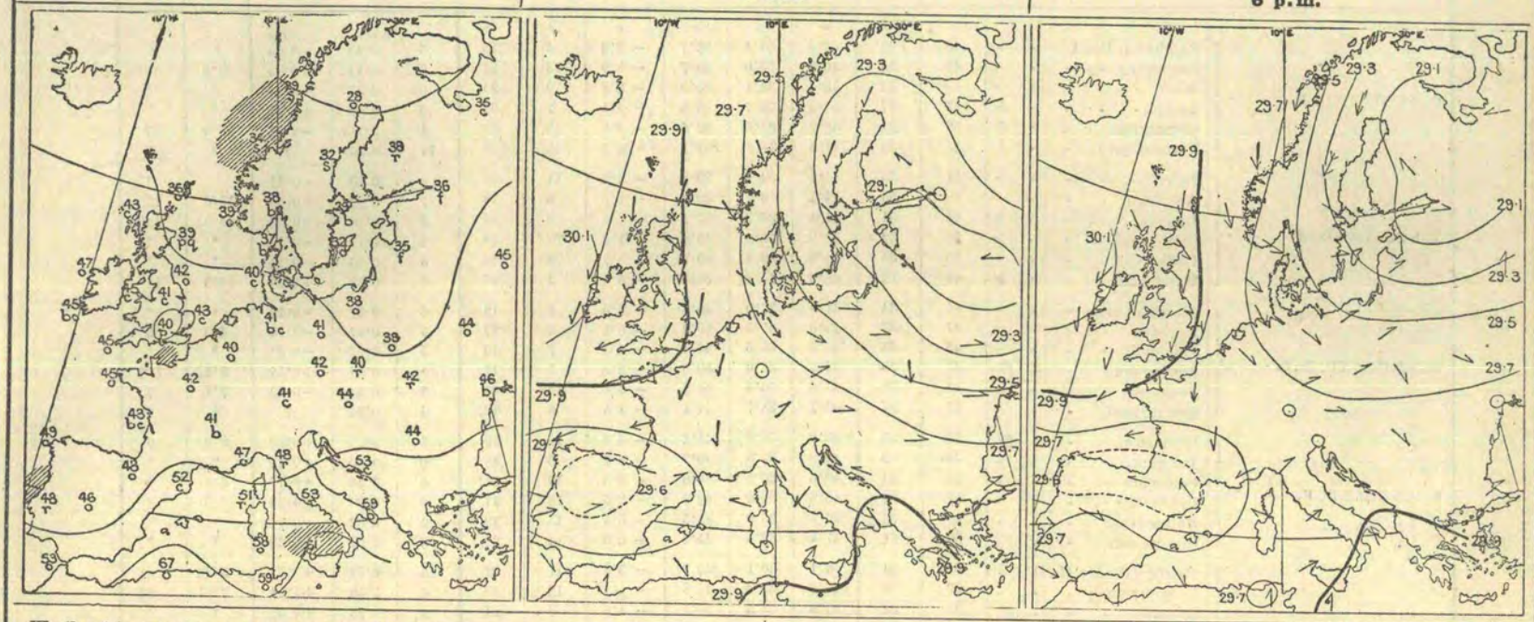
Barometer steadily high (29·90 ins. to 30·03 ins.) in the west and north-west of the British Isles, but the high-pressure systems over North-Eastern Russia and the south west of Spain giving way. Complex low-pressure system (not deep) over Poland and Western Russia, and new depressions advancing (1) from the north-westward to the north of Scandinavia, and (2) from the westward over Spain.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 15th April.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fair over the greater part of our Islands and France, but showery at some of our northern and eastern stations. Dull and unsettled elsewhere, with rain over Finland, Eastern Germany, and Poland, as well as in many parts of Italy, Spain, and the south of France. Snow falling in the north of Scandinavia. Heavy rain falling later in the south of France, largest amount being 0·8 in. at Cette.

Temperature a little below the freezing point in Sweden and the north of Norway; below 40° over Northern Europe generally, and also over Central Ireland. Above 55° over the Mediterranean, and above 60° on the Algerian coasts; highest readings of all being 67° at Algiers and 66° at La Calle. Frost occurring over the central parts of Ireland and England at night; thermometer on grass falling to 24° in London.

Wind moderate from the Northward or North-Westward over the northern and eastern parts of the United Kingdom, and fresh or strong from the same quarters on the eastern shores of the North Sea, but Westerly over Germany, Austria, and the south of Russia and Easterly over Northern Russia. Light to fresh from East or North-East over France and the south of our Ireland; South-Westerly in the south of Spain, Southerly in Algeria, and South-Easterly in Italy. No important change occurring during day.

Barometer highest, 30·1 ins. and upwards, in an anticyclone lying off the west of Ireland; high, 29·9 ins. and upwards, over the eastern parts of the Mediterranean. Lowest, 29·0 ins. and less, in an irregularly formed depression extending from Central Russia to the Gulf of Finland; low, 29·6 ins. and less, in a large disturbance lying over the north of Spain. Russian depression subsequently moving north-eastwards; Spanish disturbance extending slowly northwards.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

Throughout the earlier part of this week pressure was high both over Northern and South-Western Europe, low relatively over France and the southern parts of the British Islands. The wind was consequently Easterly or North-Easterly over all the more northern countries, North-Westerly to Westerly in Spain and over the Mediterranean, while in France and Germany it was very variable. The weather was showery and cold except in the extreme north and south-west, where the sky was often clear; snow fell occasionally over several of the more northern parts of the Continent. Towards the end of the week, however, a new high pressure system appeared off our western coasts and spread eastwards over the British Isles to France, low pressure areas appeared over Russia and Spain, and, while the weather over the British Islands improved, that over Northern Europe became showery, and considerable quantities of rain fell over Spain, on many of the Mediterranean shores, and in the south of Russia.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
April 8, 1889	Llandudno	51	35	46·5	37·1	41·6	− 5·2	13	19	7	1·93	+1·53	6·8	7

III.—DATA from which the SUMMARY on page 85 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	46	32	43·4	34·4	38·7	− 3·6	4	26	6	0·44	−0·06	*	*
	Stornoway	49	30	46·3	33·6	39·7	− 3·9	12	31	6	0·14	−0·44	42·6	43
	Wick	49	32	45·4	35·1	40·0	− 2·8	10	25	6	0·85	+0·50	*	*
	Lairg	47	27	44·4	32·7	38·3	− 4·1	7	32	6	0·92	+0·42	*	*
	Glencarron	53	28	46·7	32·6	39·3	− 3·6	13	34	4	0·11†	−0·88	26·0	27
	Fort Augustus	53	32	?47·4	?35·4	?41·1	? − 3·2	?15	?25	?5	0·35†	?	*	*
1. SCOTLAND, E.	Nairn	51	25	46·1	34·1	39·8	− 4·2	11	28	4	0·19	−0·11	*	*
	Aberdeen	48	35	44·1	36·9	40·3	− 2·0	6	18	7	0·60	+0·09	15·0	15
	Braemar	49	31	41·4	33·3	37·2	− 3·8	0	34	5	0·86	+0·30	15·0‡	15‡
	Ochtertyre	55	32	48·9	36·3	42·3	− 1·9	26	16	4	0·25	−0·29	*	*
	Leith	50	35	44·9	36·4	40·7	− 4·7	8	22	5	0·25	−0·14	*	*
	Marchmont	48	32	42·6	34·4	38·3	− 5·4	2	26	5	0·68	+0·10	10·3	11
2. ENGLAND, N.E.	Alnwick Castle	44	34	41·9	37·0	39·3	− 4·9	0	19	6	0·37	−0·18	*	*
	Durham	47	33	43·6	35·5	39·4	− 5·1	4	23	5	0·37	−0·15	4·6	5
	Shields	46	34	44·4	36·6	40·3	− 4·5	7	19	5	0·22	−0·23	*	*
	Scarborough	47	35	42·9	37·0	39·8	− 5·0	3	17	5	0·59	+0·14	9·2‡	10‡
	York	49	30	45·6	36·4	40·8	− 5·4	10	21	5	0·20	−0·22	7·1	7
	Spurn Head	45	37	43·7	38·7	41·1	− 4·5	5	12	4	0·33	?	*	*
3. ENGLAND, E.	Hillington	52	35	46·0	36·9	41·2	− 4·6	11	19	6	0·75	+0·33	9·0	9
	Yarmouth	45	36	43·9	37·9	40·8	− 5·7	5	15	6	0·55	+0·14	*	*
	Geldeston	51	34	45·6	36·1	40·6	− 6·5	10	21	6	0·52	+0·17	8·1	9
	Cambridge	51	31	48·6	35·9	42·0	− 5·5	18	17	6	0·73	+0·33	5·8	6
	Rothamsted	49	33	46·6	36·9	41·5	− 5·5	13	19	6	0·62	+0·12	*	*
	Ingatestone	50	31	47·1	36·5	41·6	− 6·0	14	21	6	0·59	+0·22	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	50	31	46·1	36·1	40·9	− 5·3	11	22	6	0·52	+0·12	3·3‡	3‡
	Loughborough	53	36	46·6	37·4	41·8	− 5·1	13	18	6	1·45	+1·04	7·6‡	8‡
	Cheadle	49	32	45·3	35·3	40·1	− 4·9	9	24	5	1·03	+0·52	*	*
	Churchstoke	51	28	44·8	34·2	39·3	− 7·4	8	28	4	1·34	+0·94	6·5	7
	Hereford	53	31	48·1	35·7	41·6	− 5·9	17	24	5	0·63	+0·21	*	*
	Cirencester	51	34	46·6	36·0	41·1	− 5·5	13	23	4	0·17	−0·35	10·8	11
	Oxford	51	36	46·7	38·3	42·3	− 5·4	18	10	6	1·03	+0·61	6·7	7
5. ENGLAND, S.	London	52	37	47·6	39·4	43·3	− 5·3	20	7	5	0·68	+0·25	2·9‡	3‡
	Strathfield Turgiss	53	35	47·1	38·5	42·6	− 4·7	19	10	5	0·47	+0·03	*	*
	Dungeness	52	37	49·3	39·6	44·2	− 4·4	25	7	6	0·73	+0·31	*	*
	Hastings (St. Leonard's)	56	37	49·5	39·8	44·4	− 3·4	26	6	6	0·81	+0·33	13·3	14
	Southampton	57	36	51·3	39·3	45·0	− 2·9	32	8	4	0·36	−0·12	8·3	9
	Hurst Castle	53	38	49·3	40·9	44·9	− 3·6	25	3	3	0·42	−0·02	*	*
	Stowell	53	35	48·0	37·2	42·3	− 4·6	22	13	4	0·23	?	4·6‡	5‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	52	31	48·3	36·1	41·9	− 3·0	18	23	0	— †	−0·89	*	*
	Glasgow	53	32	46·3	36·3	41·1	− 4·0	12	22	3	0·24	−0·28	21·4	22
	Ardrossan	52	32	46·9	36·3	41·4	− 3·8	14	22	3	0·14	−0·38	*	*
	Glenlee	50	29	46·2	34·5	40·1	− 4·8	12	27	3	0·27†	−0·41	*	*
	Douglas (Isle of Man)	51	34	46·3	38·6	42·3	− 4·3	16	10	3	0·45	−0·10	21·6	23
7. ENGLAND, N.W.	Newton Reigny (Penrith)	48	30	45·1	34·2	39·4	− 5·2	9	28	4	0·55	+0·11	7·7	8
	Barrow-in-Furness	50	37	48·4	38·0	43·0	− 5·3	24	11	3	0·37	−0·08	*	*
	Stonyhurst	49	34	45·7	36·7	41·0	− 5·1	10	20	3	0·21	−0·36	5·4	6
	Blackpool	51	32	48·1	36·5	42·0	− 5·3	17	15	3	0·51	+0·11	14·1	15
	Manchester	50	35	45·5	37·0	41·1	− 4·3	10	19	4	0·71	+0·22	*	*
	Liverpool Obsy (Bidston)	49	33	46·1	36·6	41·1	− 5·7	11	20	5	0·79	+0·42	*	*
	Llandudno	49	33	45·9	36·8	41·1	− 7·1	11	19	3	0·94	+0·54	15·8	17
	Holyhead	49	36	44·7	38·3	41·4	− 6·5	8	14	3	0·70	+0·28	*	*
8. ENGLAND, S.W.	Llandovery	54	29	49·7	34·6	41·8	− 5·6	22	29	3	0·77	+0·10	*	*
	Pembroke	49	37	47·3	38·6	42·7	− 5·8	19	10	4	0·34	−0·16	33·9	36
	Arlington (N. Devon)	54	31	48·9	36·0	42·1	− 5·3	26	17	2	0·26	−0·44	*	*
	Cullompton	54	30	49·7	37·2	43·2	− 4·8	29	13	3	1·02	+0·41	12·1	13
	Falmouth	51	37	49·3	39·4	44·1	− 4·4	26	7	4	0·59	−0·16	30·8	33
	Plymouth	55	35	50·9	39·1	45·7	− 3·4	38	8	3	0·23	−0·37	23·0	24
	Prawle Point	53	36	50·0	37·6	43·5	− 4·5	29	12	2	0·21	?	*	*
9. IRELAND, N.	Malin Head	46	37	45·0	39·1	41·9	− 3·3	8	11	2	0·18	?	*	*
	Londonderry	53	35	49·1	37·3	42·9	− 3·3	26	13	4	0·17	−0·38	*	*
	Mullaghmore	52	37	47·7	39·4	44·4	− 2·9	28	7	3	0·24	−0·23	*	*
	Belmullet	51	37	47·1	39·6	43·2	− 4·5	18	7	4	0·08	?	*	*
	Markree Castle	53	34	48·1	37·1	42·3	− 4·3	23	14	4	0·19	−0·39	23·7	27
	Brookeborough	51	29	46·7	34·7	40·4	− 5·9	13	27	3	0·35	?	*	*
	Armagh	52	33	46·9	36·6	41·5	− 5·0	14	21	3	0·53	+0·01	19·6	21
	Donaghadee	49	38	46·6	39·4	42·8	− 4·0	17	7	4	0·49	+0·02	*	*
	Edgeworthstown	52	30	48·0	36·1	41·8	− 4·5	17	23	4	0·43	−0·15	*	*
10. IRELAND, S.	Dublin	51	33	47·3	39·3	44·1	− 3·7	19	8	4	0·68	+0·20	16·0	17
	Parsonstown	52	30	50·1	34·7	42·3	− 4·8	33	20	3	0·12	−0·38	25·7	27
	Kilkenny	54	28	49·1	36·1	42·3	− 4·3	27	17	4	0·08	−0·45	*	*
	Waterford	54	27	49·4	35·1	41·9	− 6·1	21	27	3	0·16	−0·52	*	*
	Roche's Point	52	34	49·9	38·7	44·0	− 4·1	28	9	3	0·41	−0·39	*	*
	Valencia	53	36	51·3	38·3	44·5	− 4·1	33	10	2	0·07	−0·88	46·8	49
	Killarney	55	27	51·0	31·2	40·6	− 7·1	25	41	1	0·01	?	*	*
	Foynes	52	33	50·4	38·7	44·3	− 2·5	30	9	0	—	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	53	42	49·6	43·0	46·1	− 3·2	29	0	3	0·08	−0·50	*	*
	Jersey	55	39	50·1	42·7	46·2	− 2·3	29	0	4	0·17	−0·31	21·2	23

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked S with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 16.] *Third Series.* WEEK ENDING MONDAY, 22ND APRIL, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number, TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 96.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	59	33	50·2	39·9	44·8	1 above.	28	+ 4	6	− 8	127	− 32	503	+ 39
	1. SCOTLAND, EAST	67	31	55·1	49·4	47·4	3 above.	45	+13	4	− 8	193	− 33	535	+ 24
	2. ENGLAND, N.E.	66	35	54·2	41·8	47·7	1 above.	41	+ 9	1	− 9	172	− 57	480	+ 23
	3. ENGLAND, EAST	63	31	55·5	39·1	46·8	2 below.	46	+ 4	8	− 3	205	−100	610	+130
	4. MIDLAND COUNTIES	66	31	55·4	40·5	47·6	1 below.	46	+ 1	4	− 8	223	−106	552	+ 79
	5. ENGLAND, SOUTH	65	32	55·0	41·6	48·0	1 below.	44	− 3	1	− 6	248	−109	444	+ 86
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	57	30	51·9	41·9	46·7	0 (average).	33	− 4	0	−10	208	− 52	368	− 8
	7. ENGLAND, N.W.	60	36	52·2	41·9	46·8	1 below.	34	− 4	0	− 8	178	− 87	375	+ 8
	8. ENGLAND, S.W.	68	34	54·4	42·1	47·9	1 below.	41	− 2	0	− 5	298	− 93	315	+ 90
	9. IRELAND NORTH	60	31	53·1	41·7	47·1	1 below.	37	− 3	1	− 8	289	− 33	290	− 42
	10. IRELAND, SOUTH	63	32	54·7	41·3	47·7	1 below.	43	− 2	2	− 4	396	− 34	221	− 7
	— CHANNEL ISLANDS	59	41	54·2	45·2	49·4	1 below.	52	+ 6	0	− 1	402	− 44	77	− 16

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 96.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	6	8	0 (average).	89	+16	15·8	+1·4	21	21	211	− 90	18	− 8
	1. SCOTLAND, EAST	4	3	2 less.	67	+11	6·8	−2·5	36	33	260	− 80	22	− 8
	2. ENGLAND, N.E.	2	1	4 less.	59	+ 4	6·5	−0 8	28	28	246	− 28	21	− 2
	3. ENGLAND, EAST	3	1	4 less.	61	+ 4	4·9	−1·9	26	26	259	−113	21	−10
	4. MIDLAND COUNTIES	2	2	3 less.	53	+ 2	8·7	+0·6	26	27	237	− 81	20	− 7
	5. ENGLAND, SOUTH	2	1	3 less.	50	+ 6	6·6	−1·7	31	32	248	− 88	21	− 7
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	4	9	1 more.	69	+ 4	12·7	−2 7	35	36	275	− 28	24	− 2
	7. ENGLAND, N.W.	3	3	1 less.	63	+ 5	8·2	−2·6	36	36	256	− 38	22	− 3
	8. ENGLAND, S.W.	3	2	5 less.	58	− 3	10·7	−2·8	45	46	336	− 34	28	− 3
	9. IRELAND, NORTH	4	7	2 more.	78	+ 8	10·7	+0·2	23	26	235	− 93	20	− 8
	10. IRELAND, SOUTH	4	4	3 less.	66	0	9·7	−3·2	35	35	325	− 42	27	− 4
	— CHANNEL ISLANDS	1	1	4 less.	67	− 1	7·2	−3·3	50	51	400	− 48	33	− 4

General Remarks.

Weather has been rather rainy and unsettled in the extreme northern and north-western parts of the Kingdom, but over England, the east of Scotland, and the south of Ireland the condition has been much fairer than of late. Towards the close of the period, however, thunder and lightning, accompanied by heavy showers of rain and hail, were experienced in many parts of England.

Temperature continued below the mean during the earlier days of the week, but subsequently rose very considerably. The average for the week has been above the normal over the greater part of Scotland, as well as in the north-east of England, but elsewhere a slight deficit is shown. The highest of the maxima, which were recorded between the 18th and 20th, varied from 57° in "Scotland, W." to 66° in "England, N.E." and the "Midland Counties", to 67° in "Scotland, W.", and to 68° in "England, S.W." The lowest of the minima were registered on the 16th, and ranged from 30° in "Scotland, W." to 36° in "England, N.W.", and to 41° in the "Channel Islands".

Rainfall has been a little more than the mean in "Scotland, W." and "Ireland, N." and about equal to it in "Scotland, N.", but in all other districts it has been less than the normal.

Bright sunshine shows a decrease in "Scotland, N.", but in all other parts of the Kingdom it has been more prevalent than for some time past. The percentage of the possible duration ranged from 51 in the "Channel Islands" and 46 in "England, S.W.", to 20 in "Scotland, N."

Barometer and Wind.—During this period the distribution of pressure gradually changed from a northerly to a westerly type. At first the barometer remained highest in the west and lowest in the east, but the mercury soon began to fall in the north, and the high pressure area moved slowly south-eastwards and became established over the Bay of Biscay and France. Towards the end of the period some well-defined depressions passed in an easterly direction to the northward of our Islands, and some subsidiary disturbances more directly over us. The Northerly winds which prevailed during the earlier part of the time were light or moderate in force, but the South-Westerly and Westerly winds which were subsequently experienced were occasionally fresh or strong, especially in the west and north.

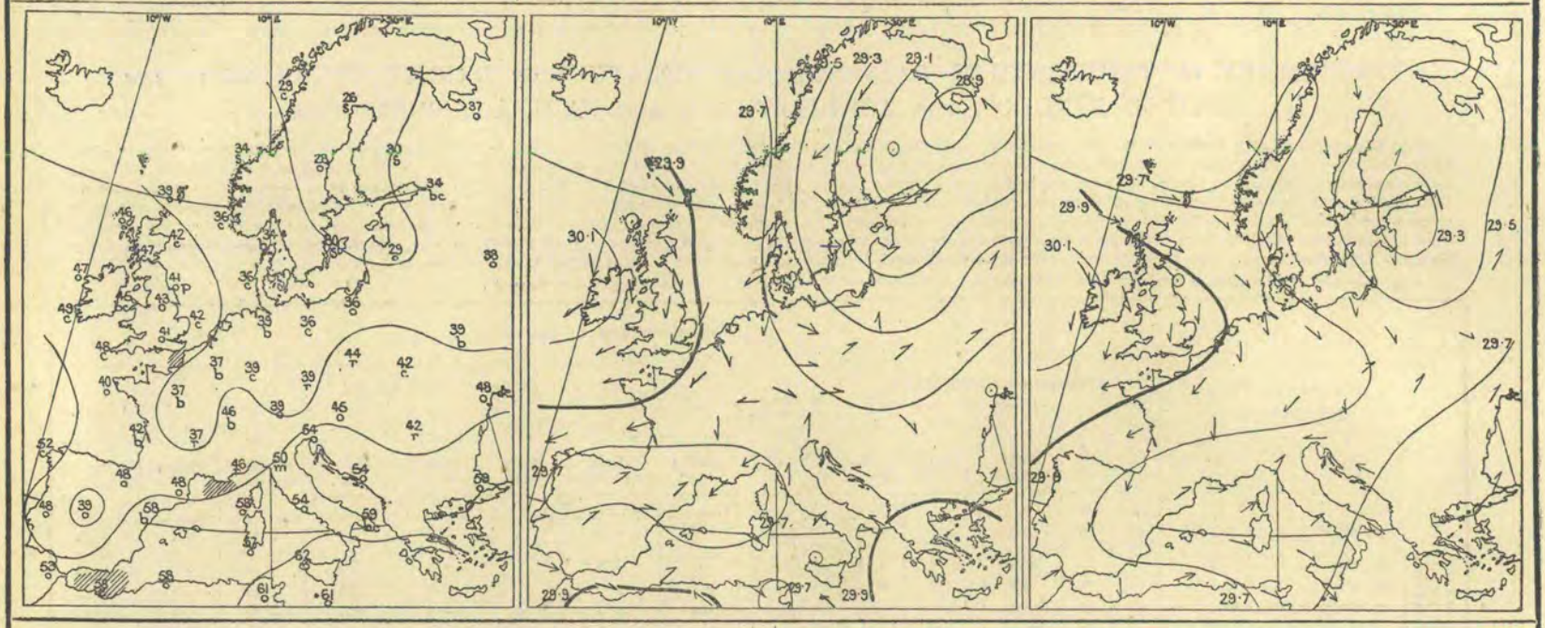
A 58469. 350.—4/89. Wt. 36. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 16th April.

Temperature and Weather. | **Barometer and Wind.**

8 a.m. | **8 a.m.** | **6 p.m.**



Weather fine and bright over the south-western parts of the British Islands and in France, cloudy and unsettled in most other places, with rain over the southern and south-eastern, snow in the northern countries. Large quantities of rain in the Riviera, Italy, and on the shores of the Adriatic later, and slight showers over North Britain, but weather fair over Ireland and England.

Temperature rather low generally; ranging from between 58° and 61° over Algeria, and from between 50° and 55° on the north-eastern shores of the Mediterranean to less than 50° over the United Kingdom, and to several degrees below the freezing point over Sweden, Lapland, and the northern parts of Russia. Daily maxima of 70° to 72° in the south of Italy later.

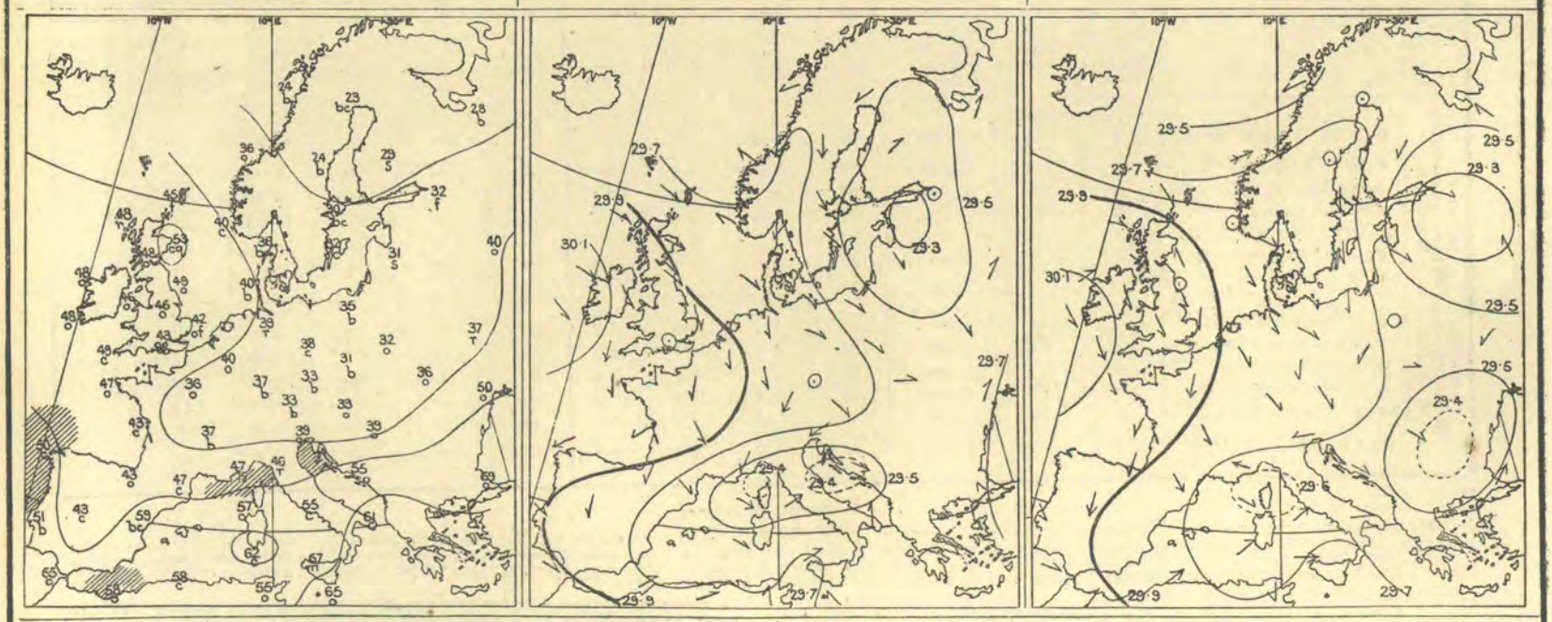
Wind moderate from the Northward (North-West to North-East) over the British Islands, North-Easterly over France and the Bay of Biscay; strong to moderate from the Northward on the eastern shores of the North Sea and in Sweden, light from West over Central Europe, and South-Westerly to South-Easterly over Russia. Very little change during the day.

Barometer highest (30·00 ins. to 30·15 ins.) over the western half of the British Islands, and rather above 29·9 ins. over Greece; lowest, 28·9 ins. to 29·2 ins. over Northern Russia, and rather low (29·7 ins. and less) over the south-west and south of France and the northern parts of the Mediterranean. Fresh fall of the barometer setting in over North-Western Europe later and also over the Mediterranean.

Wednesday, 17th April.

Temperature and Weather. | **Barometer and Wind.**

8 a.m. | **8 a.m.** | **6 p.m.**



Weather fine over Scandinavia, Denmark, and Germany, as well as in the west of England and the southern portions of Spain and France; cloudy and unsettled elsewhere, with much rain in some parts of Italy, and a little at Stornoway. Rain in the south of France later, and a heavy fall at Rome; none in our Islands except in far north, but a considerable fall of snow at Christiansund.

Temperature inclined to rise over North-Western Europe, but remaining below freezing point over Northern Europe, below 40° over Central France, and below 50° over the British Islands generally; varying from 55° to more than 60° on the southern shores of the Mediterranean. Maxima of 60° recorded in the north-east of Scotland later, 58° at Parsonstown, and 54° to 56° over the south-east of England.

Wind North-Westerly in Scotland and Ireland, Northerly over England, France, and Holland. North-Easterly over the Bay of Biscay; independent cyclonic circulation of moderate winds over Russia and the Baltic, and another of strong winds over the northern parts of the Mediterranean, Italy, and the Adriatic.

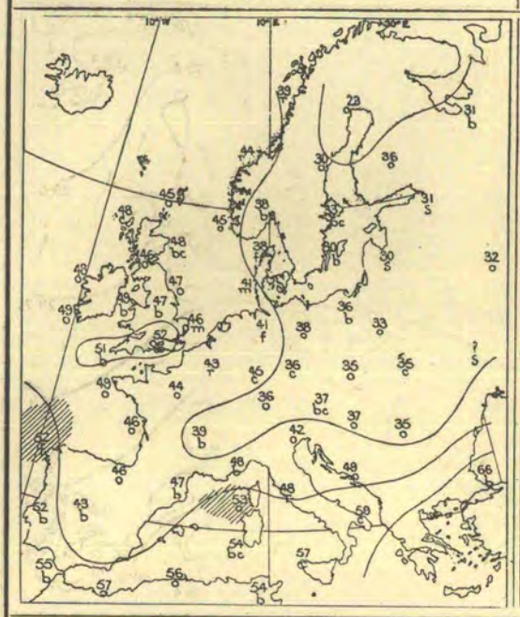
Barometer highest, 29·90 ins. to 30·15 ins., over the British Islands; lowest, 29·3 ins. and less, in a depression over the Baltic provinces; and 29·4 ins. and less in smaller disturbances over the Gulf of Genoa and the northern part of the Adriatic. Barometer rising a little in our Islands later, while the depressions over Russia and the Mediterranean became more complex.

II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 18th April.

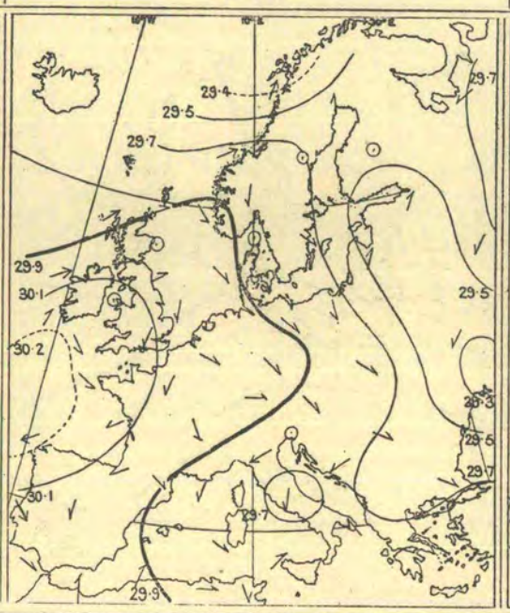
Temperature and Weather.

8 a.m.

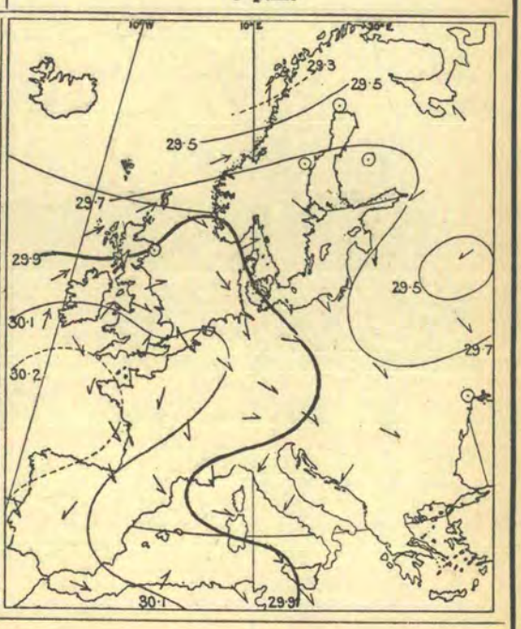


Barometer and Wind.

8 a.m.



6 p.m.



Weather bright over South-Western Europe, fair over the United Kingdom generally, but gloomy and hazy in places; cloudy generally elsewhere, with snow in many parts of Russia, and steady rain in the northern half of Norway. Slight showers at our own extreme northern stations later, and considerable rain in Algeria.

Temperature rising over Western Europe, and exceeding 50° at 8 a.m. along our southern coasts; still below the freezing point in Lapland, Sweden, and the north of Russia, and not much above it in Poland and Austria-Hungary. Rising to between 58° and 60° in several parts of England during the day, but not high over Southern Europe.

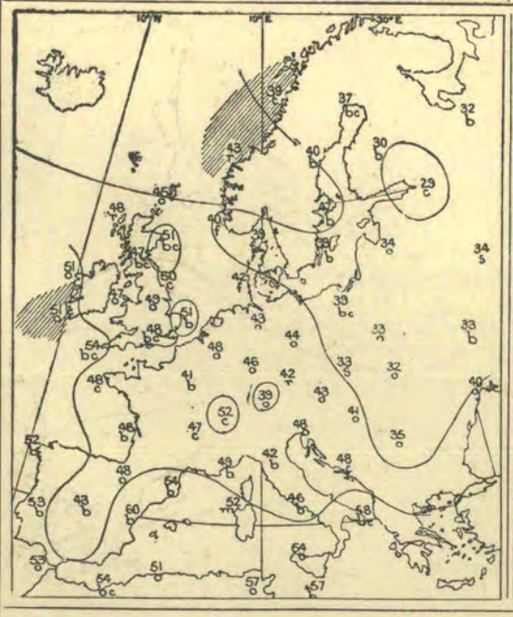
Wind moderate North-Westerly over the Baltic and Central Europe, strong from North in the north of Italy, very variable and light over Western Europe; becoming South-Westerly on the Scotch, Irish, and Norwegian coasts, and blowing strongly over the northern parts of Norway. The South-Westerly wind freshening at our western and north-western stations later, and beginning to spread over England.

Barometer highest, 30·0 ins. to nearly 30·2 ins. over Western Europe and the British Islands, low over the Mediterranean and Russia, where several depressions were found; a new depression approaching Lapland from the westward, but those over Russia beginning to coalesce. Barometer falling a little in the British Isles later.

Friday, 19th April.

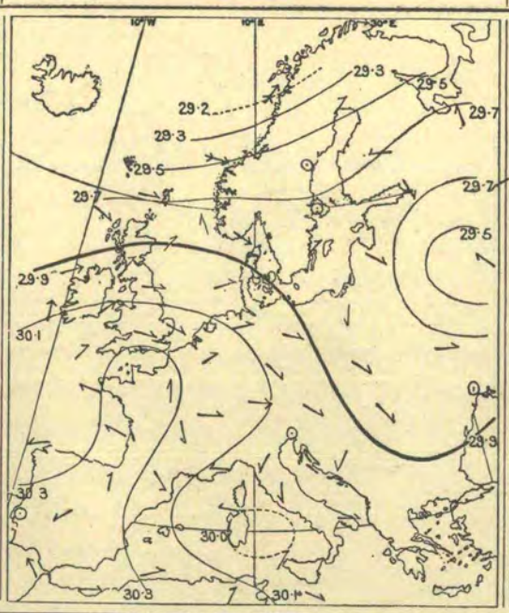
Temperature and Weather.

8 a.m.

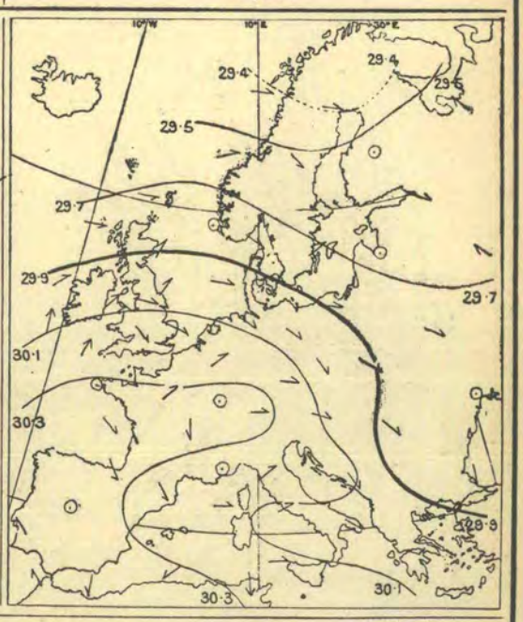


Barometer and Wind.

8 a.m.



6 p.m.



Weather very fine over Spain, France, and the greater part of the British Islands, and improving over Central Europe, though local snow showers still fell there. Rain falling in west of Norway, and subsequently in the north and west of the British Islands also.

Temperature rising over Central Europe and on the shores of the Baltic and North Sea. Slight frost still prevalent in Finland and several parts of Russia; none over Western Europe, but morning readings exceeding 50° at several western stations. Thermometer in shade rising later to nearly 70° in several parts of France, to 65° in London, 61° at Cambridge, and 59° in the east of Scotland.

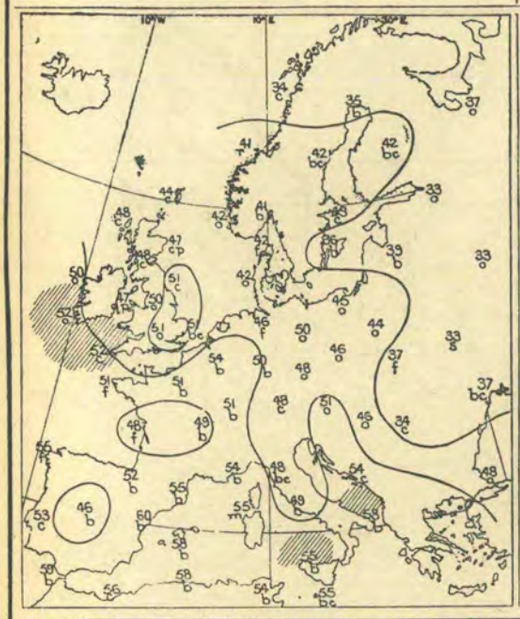
Wind still blowing hard from South-West in the north of Norway, and becoming South-Westerly in all parts of the British Islands; Westerly over the North Sea. Variable airs prevailing over Spain, France, and the Baltic, North-Westerly in Eastern Germany, Poland, and Hungary, but backing towards West later.

Barometer highest, 30·2 ins. to 30·4 ins., over Spain and France, lowest in the neighbourhood of the North Cape, and rather low in disturbances over Central Russia and the Mediterranean also; the latter disturbances filling up later, and distribution of pressure becoming much more simple than for a long time past.

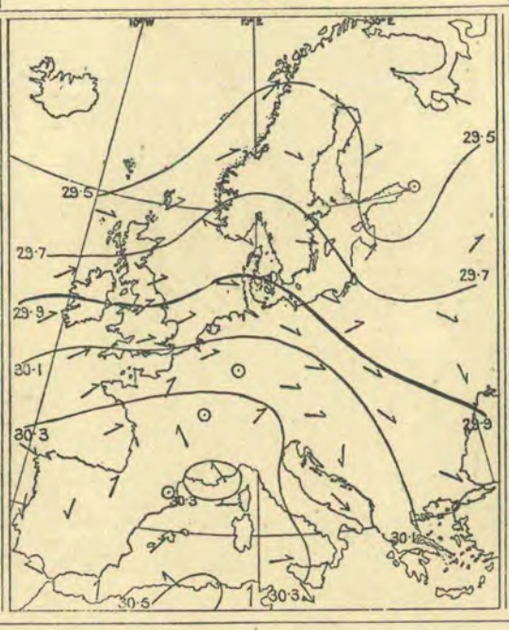
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 20th April.

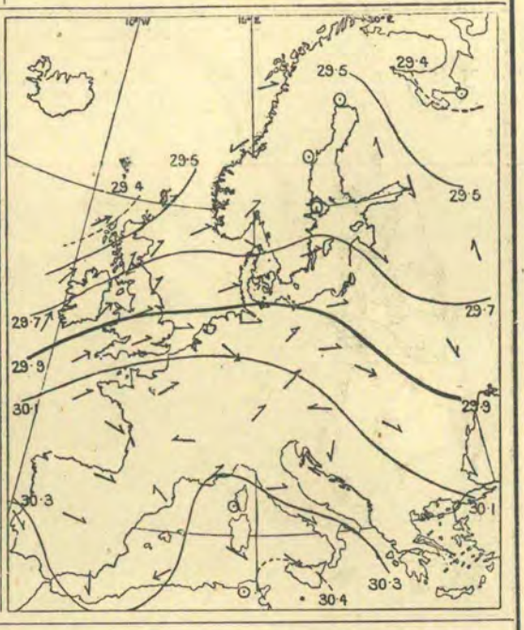
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine in all the more southern countries, as well as in Sweden, Finland, and the south-west of our Islands. Cloudy or overcast elsewhere, with passing showers in many parts of the United Kingdom, fog in Denmark and North Germany, and snow at Kiev. Rather heavy falls of rain occurring later over the western parts of our Islands, with hail at Mullaghmore.

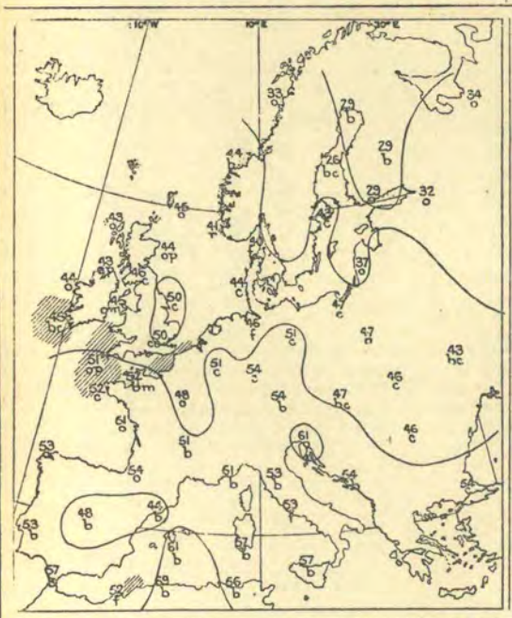
Temperature highest, 55° to 60°, over the shores of the Mediterranean, 50° to 52° over the east of England, the shores of the Irish Sea, and our extreme south-west coasts. Lowest, 35° and less, over Lapland and Central Russia, 40° and less over the whole of Russia and the north of Scandinavia. Subsequently rising a little above 60° over the eastern parts of Great Britain, and above 70° over Algeria, Central Spain, and the south of France.

Wind South-Westerly over our Islands, France, and the west of Norway, fresh in force in the west and south of our Islands, but light or moderate elsewhere. Light or moderate from the Westward over Sweden, Denmark, and Germany; North-Westerly on the eastern and southern shores of the Baltic, and also over Austria and the southern parts of Italy and Russia. Variable in the south of France; South-Easterly or Southerly in Algeria. Subsequently increasing to a moderate gale from South-West in the west of Ireland.

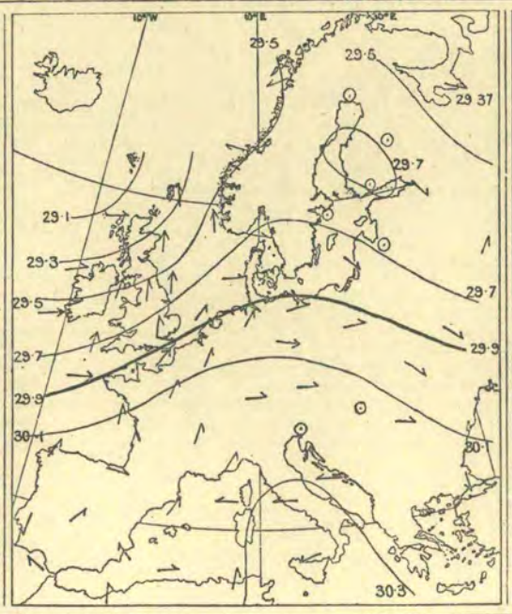
Barometer highest, 30·5 ins. and upwards, over Central Algeria; 30·4 ins. and upwards over Central Spain and the southern parts of the Mediterranean. Lowest, 29·5 ins. and less, over Lapland and Northern Russia, and also in a depression which was advancing towards our extreme northern coasts from the westward. Brisk fall taking place later in the west and north of our Islands.

Sunday, 21st April.

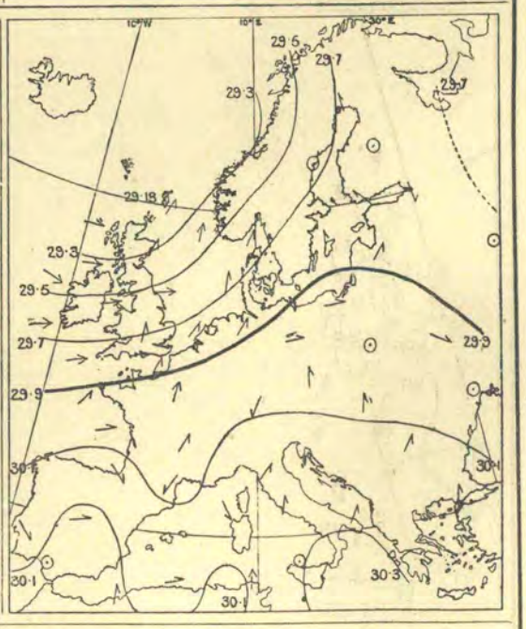
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine in all the more southern countries, as well as in Finland, Sweden, and the Baltic provinces. Cloudy or overcast elsewhere, with showers in many parts of the United Kingdom, and fog in Denmark. Showers falling later at some of the French stations, and heavy rain at Corunna and Oporto. Thunderstorms occurring at Lyons and Clermont, as well as at Cracow.

Temperature highest, 55° and upwards, over the Mediterranean, 50° to 52° in the east and south-west of England. Lowest, 28° to 32°, over Lapland and Finland; below 40° over Russia, Sweden, and the north of Norway generally. Maxima over our Islands somewhat lower than on previous day, but thermometer rising above 70° over Algeria and Southern Italy.

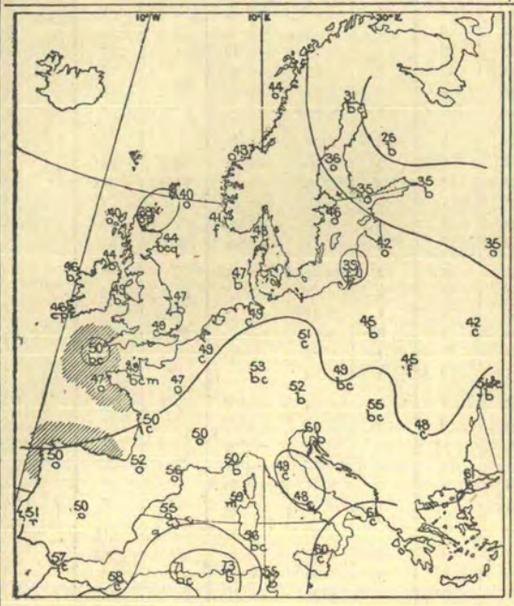
Wind fresh or strong from the South-Westward over our Islands and light or moderate from the same quarter over the Netherlands, France, and the north of Spain. South-Easterly or Easterly in the west of Norway; light from West or North-West over Central Europe. Rather variable over the more southern countries, but light from the Southward at the Algerian stations. Subsequently veering to the Westward on the west coasts of our Islands, and falling moderate.

Barometer highest, 30·3 ins. and upwards, over Tunis, the south of Italy, and the adjacent parts of the Mediterranean; high, 30·2 ins. and upwards, over the whole of Southern Europe and the Mediterranean. Lowest, 29·2 ins. and less, in a depression lying over the north and north-west of Scotland; 29·4 ins. and less, over the extreme north of Russia. Depression over the north of Scotland subsequently travelling north-eastwards towards the west of Norway.

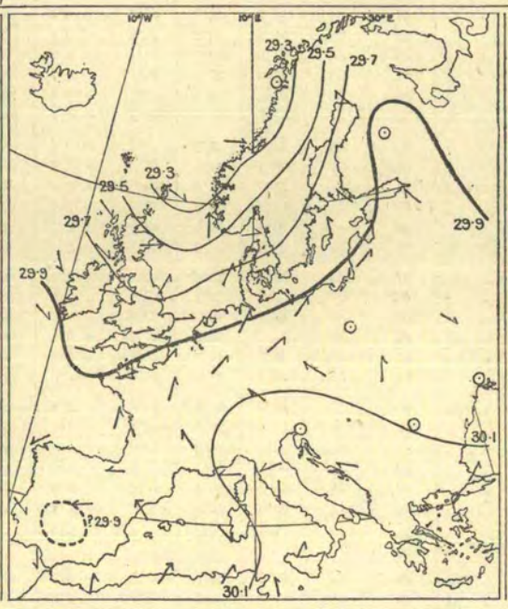
II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 22nd April.

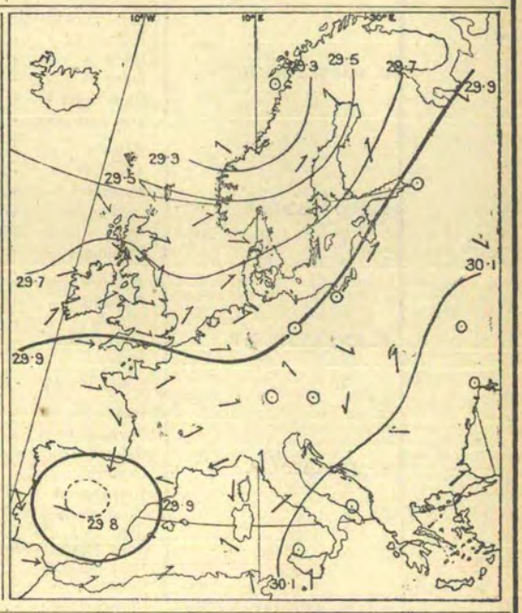
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather fair over the greater part of Europe, but dull in Scandinavia and Spain, with rain locally. Fog reported at some of the Baltic stations as well as at Skudesnaes. Showers falling later in France, and thunderstorms occurring in some parts of England as well as at Biarritz.

Temperature highest, 70° and upwards, on the Algerian coasts; 55° to 60° at several of the Mediterranean stations. Lowest, 22° to 26°, over Lapland and Central Finland; low, 40° and less, over the whole of Central and Northern Russia and the north of Sweden. Maxima for day below 50° in the north of our Islands, and below 55° at many of our western stations; but above 75° in Algeria, highest of all being 81° at Algiers.

Wind moderate to strong from the North-Westward in the west and north of our Islands, but moderate from South-West over the south and east of England, the east of France, the Netherlands, Germany, and the Baltic, and light from the Southward in Sweden and Northern Russia. Light from East and North-East in Italy; moderate or fresh from the Southward and South-Westward in Algeria. Cyclonic circulation of light winds reported over Spain. Subsequently backing to the South-Westward on our western coasts.

Barometer highest, 30·2 ins. and upwards, over Southern Italy and the eastern parts of the Mediterranean. Lowest, 29·3 ins. and less, in a large depression lying to the westward of Norway. Depression subsequently moving eastwards, and barometer rising over Great Britain, but new disturbances approaching Ireland in evening and barometer falling slightly at our extreme western stations.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛ = a heavy gale; ⟹ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

The high-pressure area which lay off the west of Ireland at the beginning of the week moved slowly to the south-eastward between the 17th and 19th, and spread gradually over the whole of Southern and South-Eastern Europe, while the low-pressure systems which lay over the Mediterranean and Russia filled up. The wind over the United Kingdom backed gradually to the Westward and South-Westward as this change took place, the sky cleared, and temperature rose so that on Thursday and Friday daily maxima were recorded as high as 60° to 65° in the British Islands, and 65° to 70° in several parts of France. On the 19th, however, depressions began to appear again in the extreme north-west, and as they spread southwards over the United Kingdom the South-Westerly and Westerly winds freshened greatly, and showery weather again spread over the Kingdom. The distribution of pressure over Europe during the latter half of the week was of a much more simple type than had been observed for a long while previously.

III.—DATA from which the SUMMARY on page 91 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ✠	51	34	48·0	40·0	43·8	+ 0·5	21	6	5	0·27	−0·22	*	*
	Stornoway	53	34	50·1	40·6	45·1	+ 0·4	28	4	7	1·24	+0·66	34·1	33
	Wick	56	35	51·6	39·7	45·3	+ 1·4	33	6	5	0·23	−0·13	*	*
	Lairg ✠	57	33	51·3	37·6	44·1	+ 0·7	33	12	6	0·17	−0·33	*	*
	Glencarron ✠	52	35	48·2	?40·0	?43·9	?+ 0·2	?22	? 6	7	1·81†	+0·83	8·5	8
	Fort Augustus ✠	59	?37	?51·7	?41·6	?46·4	?+ 0·7	?32	? 1	5	1·17†	?	*	*
1. SCOTLAND, E.	Nairn	60	38	53·7	41·3	47·2	+ 2·1	39	2	4	0·30	0·00	*	*
	Aberdeen	61	37	56·4	41·1	48·4	+ 3·7	49	3	4	0·09	−0·42	35·8	35
	Braemar ✠	61	31	51·7	38·6	44·8	+ 2·6	34	10	4	0·38	−0·20	32·8‡	33‡
	Ochtertyre ✠	67	33	56·9	39·6	47·8	+ 2·7	51	7	4	0·50	−0·03	*	*
	Leith	62	40	56·6	42·1	49·0	+ 2·5	49	0	4	0·25	−0·14	*	*
	Marchmont ✠	61	35	55·3	39·6	47·1	+ 2·4	46	7	3	0·18	−0·40	39·0	39
2. ENGLAND, N.E.	Alnwick Castle	57	36	53·4	42·6	47·8	+ 2·3	41	0	3	0·07	−0·48	*	*
	Durham	66	37	55·9	40·1	47·6	+ 2·0	47	5	1	0·03	−0·48	31·5	32
	Shields	60	39	54·0	42·3	47·9	+ 2·1	41	0	1	0·24	−0·20	*	*
	Scarborough ✠	66	38	54·5	41·8	47·9	+ 0·5	42	1	2	0·15	−0·30	25·5‡	26‡
	York	64	35	56·1	42·1	48·8	+ 1·2	48	0	1	0·05	−0·38	?26·4	?27
	Spurn Head	56	38	51·4	41·6	46·2	− 0·6	31	1	1	0·09	?	*	*
3. ENGLAND, E.	Hillington ✠	63	33	55·4	39·6	47·1	− 1·0	46	7	3	0·06	−0·36	27·1	28
	Yarmouth	60	36	52·3	39·9	45·8	− 2·7	35	6	4	0·06	−0·35	*	*
	Geldeston	61	32	54·1	39·2	46·3	− 2·2	42	8	4	0·06	−0·30	22·9	23
	Cambridge	63	31	58·4	37·7	47·6	− 1·8	57	12	3	0·13	−0·27	27·4	28
	Rothamsted	62	31	56·8	39·1	47·5	− 0·6	51	8	3	0·17	−0·35	*	*
	Ingatestone	63	33	55·9	39·3	46·2	− 3·9	41	8	1	0·02	−0·53	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	62	33	55·7	41·4	48·2	0·0	46	2	1	0·13	−0·28	30·0‡	31‡
	Loughborough	64	35	55·9	42·0	48·6	+ 0·4	46	0	2	0·18	−0·24	25·8‡	26‡
	Cheadle ✠	60	35	52·6	39·5	45·7	− 0·7	36	7	3	0·20	−0·32	*	*
	Churchstoke ✠	64	31	54·3	39·1	46·3	− 2·0	42	8	4	0·27	−0·13	34·6	35
	Hereford ✠	66	33	57·5	40·9	48·8	0·0	52	3	2	0·02	−0·40	*	*
	Cirencester	64	32	56·3	40·0	47·8	− 0·1	49	6	2	0·31	−0·21	20·4	21
	Oxford	64	32	55·7	40·7	47·8	− 1·3	46	4	2	0·15	−0·27	20·8	21
5. ENGLAND, S.	London	65	35	57·1	41·4	48·9	− 1·1	51	2	2	0·13	−0·29	20·6‡	21‡
	Strathfield Turgiss ✠	63	36	57·4	41·7	49·2	+ 0·9	52	1	2	0·07	−0·37	*	*
	Dungeness	54	32	51·6	40·3	45·7	− 4·1	33	5	?	?	?	*	*
	Hastings (St. Leonard's)	53	34	51·4	41·1	45·9	− 3·7	31	3	1	0·03	−0·45	40·3	42
	Southampton	64	33	59·0	42·2	50·2	+ 0·7	57	0	3	0·08	−0·40	34·1	35
	Hurst Castle	57	34	54·0	43·3	48·4	− 1·2	45	0	2	0·03	−0·40	*	*
	Stowell ✠	62	34	54·8	41·4	47·8	− 0·8	43	2	3	0·29	?	29·3‡	30‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	53	34	50·6	41·1	45·6	− 0·6	29	3	6	1·49†	+0·63	*	*
	Glasgow	57	38	52·5	42·1	47·1	+ 1·2	36	0	4	0·51	−0·01	29·6	30
	Ardrossan	52	40	50·9	43·1	46·8	+ 0·8	34	0	4	0·83	+0·31	*	*
	Glenlee ✠	57	30	53·1	39·6	46·0	+ 0·3	38	7	4	0·86†	+0·19	*	*
	Douglas (Isle of Man)	55	39	52·5	43·6	47·8	+ 0·3	41	0	4	0·59	+0·06	40·4	41
7. ENGLAND, N.W.	Newton Reigny (Penrith)	60	39	54·1	41·0	47·2	+ 1·4	41	3	4	0·58	+0·16	41·6	42
	Barrow-in-Furness	52	41	50·7	42·6	46·5	− 1·8	32	0	2	0·18	−0·27	*	*
	Stonyhurst	57	33	51·9	40·5	45·9	− 1·2	34	4	4	0·39	−0·17	30·5	31
	Blackpool ✠	55	41	51·1	43·5	47·1	− 1·5	36	0	3	0·37	−0·03	37·6	38
	Manchester	57	36	53·3	40·2	46·4	− 0·3	38	5	3	0·29	−0·19	*	*
	Liverpool Obsy (Bidston)	56	40	52·6	42·4	47·3	− 0·5	37	0	4	0·15	−0·21	*	*
	Llandudno ✠	55	38	52·6	42·1	47·1	− 2·2	36	0	3	0·34	−0·05	33·3	34
	Holyhead	55	41	51·4	42·9	47·0	− 2·0	35	0	3	0·35	−0·07	*	*
8. ENGLAND, S.W.	Llandovery	64	35	55·0	39·6	46·9	− 2·3	44	7	4	0·33	−0·32	*	*
	Pembroke	52	39	50·4	43·4	46·7	− 2·8	33	0	3	0·17	−0·31	48·4	49
	Arlington (N. Devon)	60	34	52·9	40·1	46·2	− 2·1	37	5	4	0·26	−0·44	*	*
	Cullompton ✠	68	35	58·1	41·9	49·6	+ 0·5	54	0	4	0·18	−0·43	37·2	38
	Falmouth	58	39	53·4	43·1	48·0	− 1·4	42	0	3	0·15	−0·58	50·8	52
	Plymouth	62	40	57·2	44·3	50·4	+ 0·3	59	0	2	0·09	−0·51	42·9	44
	Prawle Point	57	39	53·7	42·4	47·8	− 1·2	41	0	1	0·03	?	*	*
9. IRELAND, N.	Malin Head	55	40	50·4	43·6	46·8	0·0	34	0	4	0·91	?	*	*
	Londonderry	58	39	54·4	42·3	48·1	+ 0·8	43	0	4	0·73	+0·20	*	*
	Mullaghmore	58	40	52·6	43·3	47·7	− 0·4	40	0	4	1·24	+0·78	*	*
	Belmullet	53	41	51·3	44·0	47·5	− 0·8	39	0	5	1·26	?	*	*
	Markree Castle	57	35	52·9	41·7	47·0	− 0·9	36	1	4	0·72	+0·17	26·2	26
	Brookeborough	57	31	53·6	39·4	46·2	− 1·4	40	7	4	0·44	?	*	*
	Armagh	60	33	54·8	39·8	46·9	− 0·7	44	6	4	0·38	−0·24	24·8	25
	Donaghadee	59	41	54·3	43·1	48·4	+ 0·6	45	0	4	0·28	−0·19	*	*
	Edgeworthstown	57	33	54·0	38·1	45·7	− 2·7	42	11	4	0·50	−0·05	*	*
10. IRELAND, S.	Dublin	60	36	56·7	41·8	48·9§	+ 0·6§	49	1	4	0·21	−0·27	45·5	46
	Parsonstown	59	32	55·4	38·9	46·8	− 1·5	47	9	3	0·26	−0·24	36·8	38
	Kilkenny	59	35	55·7	40·1	47·5	− 0·7	46	5	4	0·43	−0·09	*	*
	Waterford	63	35	56·4	39·9	47·7	− 1·3	49	6	4	0·49	−0·19	*	*
	Roche's Point	55	41	53·3	43·4	48·1	− 1·0	43	0	4	0·42	−0·37	*	*
	Valencia	54	41	53·0	43·4	48·0	− 1·6	42	0	4	0·45	−0·46	?21·9	?22
	Killarney	56	34	53·8	39·8	46·5	− 2·2	41	6	4	0·62	?	*	*
	Foynes	56	40	53·0	43·0	47·8	− 0·3	41	0	3	0·32	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	57	43	53·3	45·9	49·2	− 0·9	50	0	1	0·14	−0·43	*	*
	Jersey	59	41	55·1	44·4	49·5	− 0·3	53	0	1	0·05	−0·42	49·8	51

Stations marked ✠ are in connection with the Royal Meteorological Society, and those marked ✠ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

§ The corresponding values in last week's Report should read "48·1" and "−4·7", respectively.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 17.] *Third Series.* WEEK ENDING MONDAY, 29TH APRIL, 1889. [*Price 6d.* [*Annual subscription, post paid,* £1 10*s.* 0*d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number, TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 102.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
	0. SCOTLAND, NORTH	58	31	49·6	37·9	43·5	1 below.	28	+ 1	11	0	155	− 28	514	+ 37
Principal Wheat-producing Districts.	1. SCOTLAND, EAST	58	28	51·2	37·4	44·0	2 below.	33	− 3	13	+ 4	226	− 32	548	+ 28
	2. ENGLAND, N.E.	62	33	52·3	39·3	45·5	2 below.	36	− 1	8	0	208	− 55	488	+ 24
	3. ENGLAND, EAST	61	31	54·3	38·7	46·2	4 below.	43	− 5	9	0	248	−103	619	+131
	4. MIDLAND COUNTIES	63	30	55·4	37·6	46·2	3 below.	48	− 3	12	+ 2	274	−102	564	+ 82
	5. ENGLAND, SOUTH	62	33	53·9	40·5	46·9	3 below.	41	−12	4	− 1	289	−115	448	+ 84
	6. SCOTLAND, WEST	58	28	52·1	39·5	45·5	1 below.	35	− 6	7	− 1	243	− 52	375	− 8
	7. ENGLAND, N.W.	59	32	53·5	39·6	46·2	3 below.	39	− 4	7	0	217	− 86	382	+ 9
Principal Grazing, &c. Districts.	8. ENGLAND, S.W.	59	30	53·1	39·7	46·1	4 below.	38	−11	6	+ 3	336	−101	321	+ 93
	9. IRELAND NORTH	56	33	51·3	39·6	45·2	4 below.	32	−12	7	0	321	− 41	297	− 40
	10. IRELAND, SOUTH	57	34	52·9	40·4	46·4	3 below.	38	−12	4	− 1	434	− 43	225	− 7
	— CHANNEL ISLANDS	57	42	54·1	44·4	49·0	2 below.	49	− 3	0	0	451	− 45	77	− 16

Rainfall.

	DISTRICTS. (See p. 102.)	For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.
			10ths of in.				Ins.	Ins.
	0. SCOTLAND, NORTH	5	5	1 less.	94	+18	16·3	+1·3
Principal Wheat-producing Districts.	1. SCOTLAND, EAST	5	7	3 more.	72	+12	7·5	−2·3
	2. ENGLAND, N.E.	6	4	1 less.	65	+ 6	6·9	−0·9
	3. ENGLAND, EAST	6	7	3 more.	67	+ 6	5·6	−1·6
	4. MIDLAND COUNTIES	5	6	2 more.	61	+ 3	9·3	+0·7
	5. ENGLAND, SOUTH	6	7	3 more.	65	+ 8	7·3	−1·4
	6. SCOTLAND, WEST	4	8	1 more.	73	+ 5	13·5	−2·5
	7. ENGLAND, N.W.	5	6	2 more.	68	+ 6	8·8	−2·5
Principal Grazing, &c. Districts.	8. ENGLAND, S.W.	5	8	2 more.	63	− 3	11·5	−2·6
	9. IRELAND, NORTH	5	9	3 more.	83	+ 9	11·6	+0·6
	10. IRELAND, SOUTH	7	13	7 more.	73	+ 2	11·0	−2·5
	— CHANNEL ISLANDS	6	9	4 more.	73	0	8·1	−2·9

Bright Sunshine.

	DISTRICTS. (See p. 102.)	For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
	0. SCOTLAND, NORTH	44	41	255	− 77	20	− 7
Principal Wheat-producing Districts.	1. SCOTLAND, EAST	27	26	287	− 93	23	− 7
	2. ENGLAND, N.E.	39	38	285	− 17	22	− 2
	3. ENGLAND, EAST	36	35	286	−113	22	− 9
	4. MIDLAND COUNTIES	40	39	277	− 75	22	− 5
	5. ENGLAND, SOUTH	36	36	284	− 86	22	− 7
	6. SCOTLAND, WEST	43	42	318	− 12	25	− 1
	7. ENGLAND, N.W.	41	40	297	− 24	23	− 2
Principal Grazing, &c. Districts.	8. ENGLAND, S.W.	46	46	382	− 29	29	− 3
	9. IRELAND, NORTH	39	38	274	− 83	21	− 7
	10. IRELAND, SOUTH	42	41	367	− 33	29	− 2
	— CHANNEL ISLANDS	42	42	442	− 55	34	− 4

General Remarks.

Weather has been in an unsettled and very changeable condition; fine bright intervals have alternated with overcast skies and heavy showers, accompanied by occasional thunder and lightning.

Temperature has been below the mean in all districts, the deficit having been greatest (4°) in "England, E.", "England, S.W.", and "Ireland, N.", and least (1°) in the north and west of Scotland. The highest of the maxima were generally recorded on the 27th, when they ranged from 57° in "Ireland, S." and the "Channel Islands", to 63° over north-western, eastern, and central England. The lowest of the minima, which were registered either on the 23rd or 26th, varied from 28° in the east and west of Scotland to 34° in "Ireland, S." and to 42° in the "Channel Islands".

Rainfall has been a little less than the mean in "Scotland, N." and "England, N.E.", but rather more in all other districts.

Bright sunshine shows a further increase in most places, the percentage of the possible duration having ranged from 38 to 41 in Ireland, from 26 to 42 in Scotland, and from 35 to 46 over England.

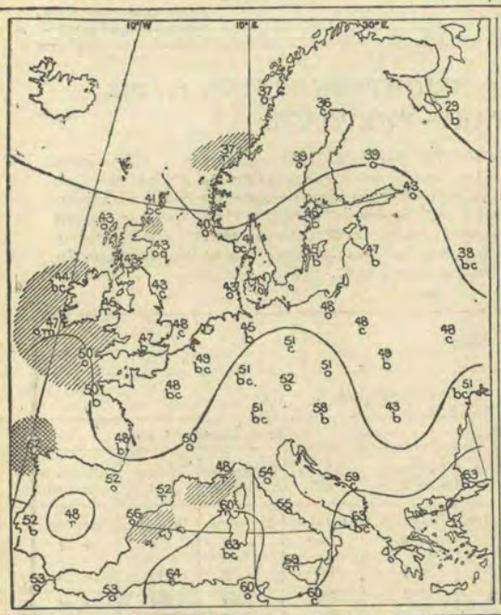
Barometer and Wind.—During the earlier part of the period a well-defined and rather deep depression travelled in a south-easterly direction over the United Kingdom causing fresh or strong Northerly winds on nearly all our coasts. As this system disappeared the barometer rose steadily in the south and south-east, and depressions skirted our extreme western and north-western coasts, while one or two subsidiary disturbances passed over our more northern districts. With this change in the distribution of pressure South-Westerly or Southerly winds became general over the United Kingdom; in force they were light or moderate, but occasionally blew freshly in the west.

A 58540. 350.—5/89. Wt. 36. E. & S.

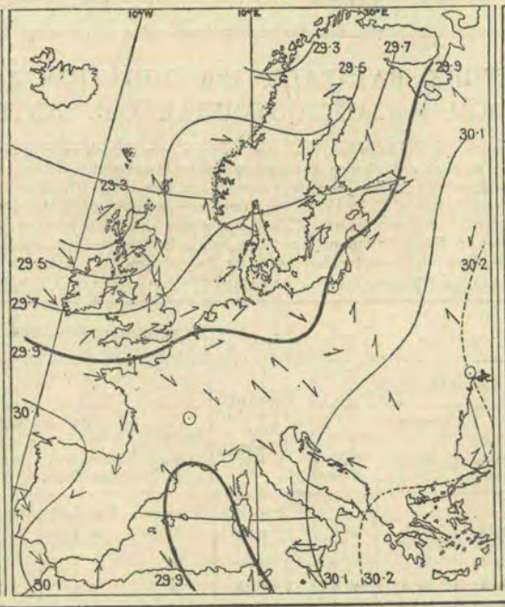
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 23rd April.

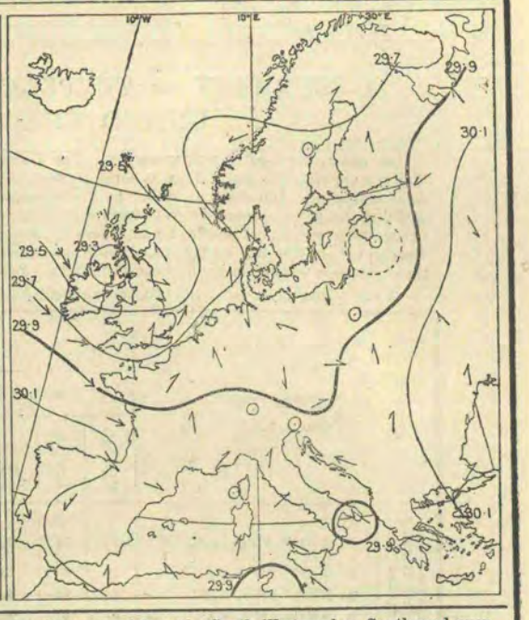
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather cloudy and showery in all the more western and northern parts of the United Kingdom and also in the north of Scandinavia, dull in Finland as well as over the greater part of Southern Europe, with rain over Central Spain and the south of France. Fine in Denmark, Austria, the central parts of France, Germany, and Russia, and the southern parts of our Islands, Sweden, and Italy. Heavy showers falling later at the English stations, and thunderstorms occurring locally.

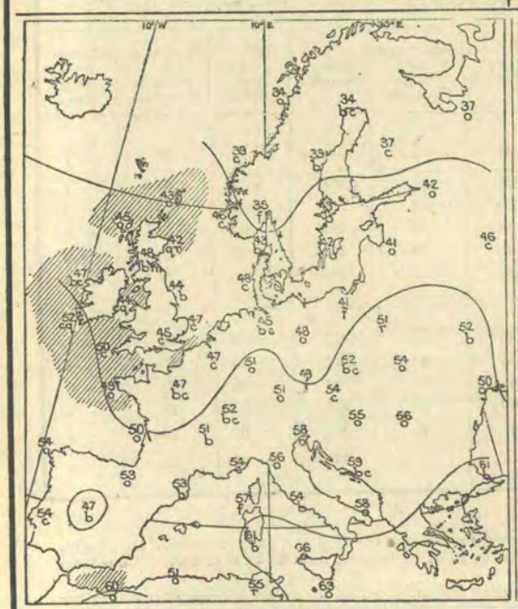
Temperature highest, 60° and upwards, over the central and southern parts of the Mediterranean; high, 50° and upwards, over Spain and the southern parts of France, Germany, and Austria. Lowest, 30° and less, in the extreme north of Russia; 40° and less over Finland and the north of Scandinavia. Maximum readings below 50° in the north and north-west of our Islands, and very little above 55° even in the extreme south and south-east, but thermometer rising above 70° in many parts of Southern Europe, and above 80° at some of the Algerian stations during the day.

Wind fresh from the Westward in Ireland and from the South-Westward or Southward over Great Britain. Light or moderate from the latter quarters over the Netherlands, Denmark, Sweden, Finland, and the Baltic, but variable over Eastern and Central Europe. Chiefly Easterly (North-East to South-East) over Italy, Spain, and the south of France, but South-Easterly or Southerly over Tunis and Sicily. Subsequently increasing to a strong breeze or gale from West in the south of our Islands and from North-West in the West.

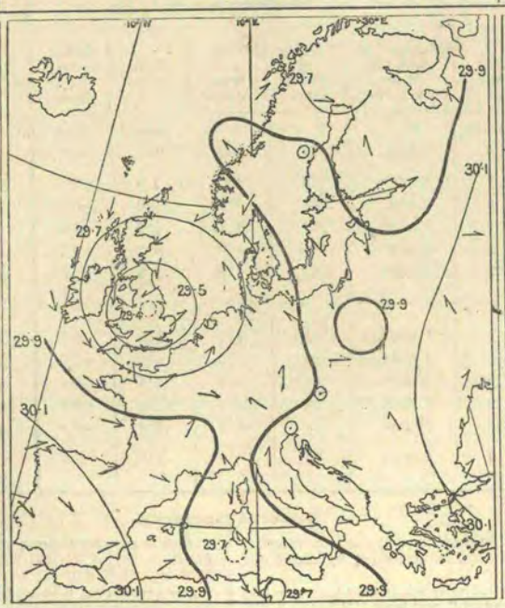
Barometer highest, 30·3 ins. and upwards, over the southern parts of Central Russia; 30·2 ins. and upwards over the eastern parts of the Mediterranean. Lowest, 29·3 ins. and less, in a depression lying off the west of Scotland and also (apparently) in another disturbance lying off the north of Norway. Low, 29·9 ins. and less, in a shallow area lying over the western parts of the Mediterranean, depression in the north-west subsequently advancing south-eastwards across the United Kingdom, and barometer falling quickly over England.

Wednesday, 24th April.

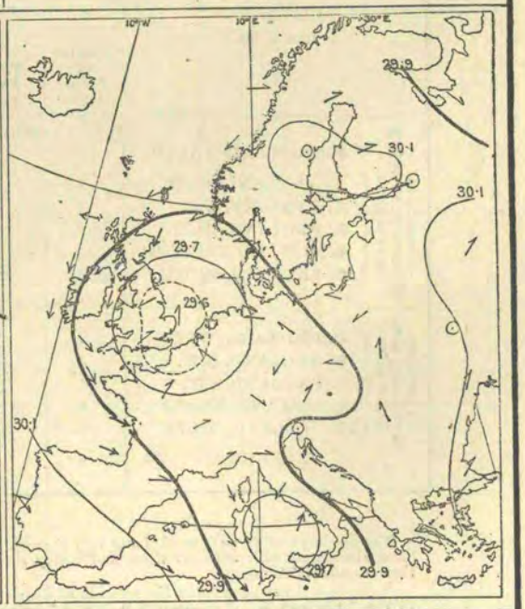
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine in Sweden, Finland, and Denmark as well as over Spain and the central parts of France and Italy. Cloudy or overcast elsewhere, with showers in many parts of the United Kingdom, and rain at Warsaw, Turin, and La Calle. Hail showers falling later at some of the English stations, and thunderstorm occurring at Lorient.

Temperature highest, 60° and upwards, over Southern Italy and the adjacent portions of the Mediterranean (Palermo 66°); high, 55° and upwards, over Southern Austria. Lowest, 35° and less, in the north of Scandinavia; 40° and less over Northern Russia. Daily maxima over our Islands below 55° generally and below 50° in the north, but thermometer exceeding 70° in many parts of Austria, Italy, and Algeria.

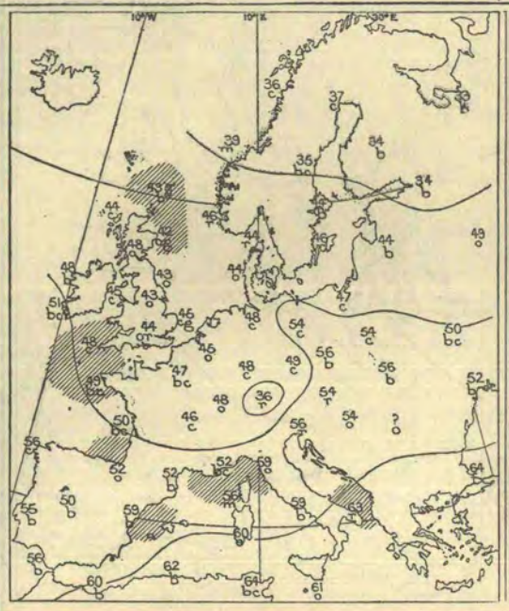
Wind strong from the North-Eastward in Scotland, from the Northward or North-Westward on our western coasts and from the Westward over the Channel and Bay of Biscay; moderate from the South-Eastward on the eastern shores of the North Sea. Light or moderate from the North-Westward in Spain and Algeria, and from the South-Eastward in Sardinia and Sicily, but variable in Russia and Austria. Subsequently increasing to a gale from the North-Eastward in the east of Scotland.

Barometer highest, 30·3 ins. and upwards, over the southern parts of Central Russia; high, 30·2 ins. and upwards, over the south of the Iberian peninsula; lowest, 29·4 ins. and less, in a depression having its centre over the English midland Counties; low, 29·7 ins. and less, in another disturbance lying over Eastern Lapland, and also in two small systems lying respectively off the coast of Tunis and Sardinia. Depression over England subsequently moving south-eastwards and partially filling up.

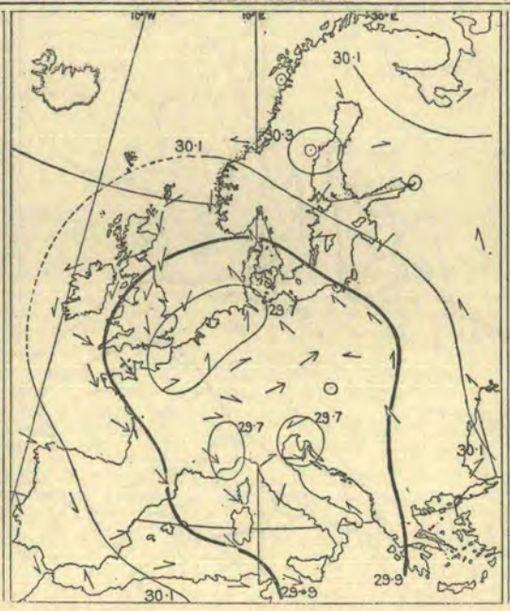
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 25th April.

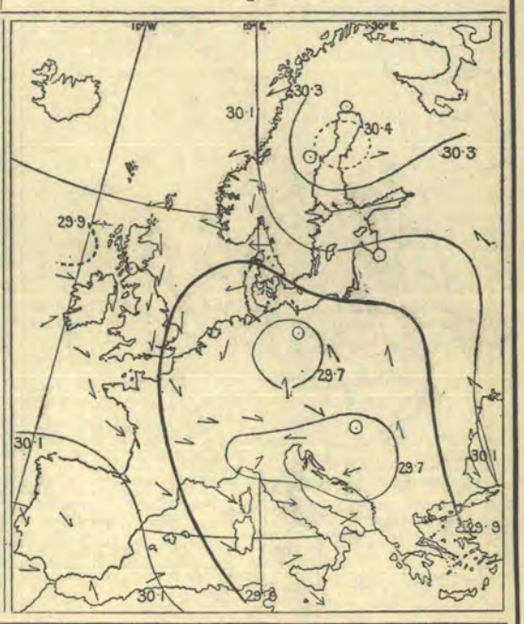
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine over Russia and Northern Europe, as well as in Ireland, the north of Scotland, the south of Spain, France, and Algeria. Cloudy or overcast elsewhere, with rain in the south-east of England and many parts of Central Europe. Heavy rain falling later at some of the Austrian stations, as well as at Boulogne, and thunderstorm occurring at the Scaw.

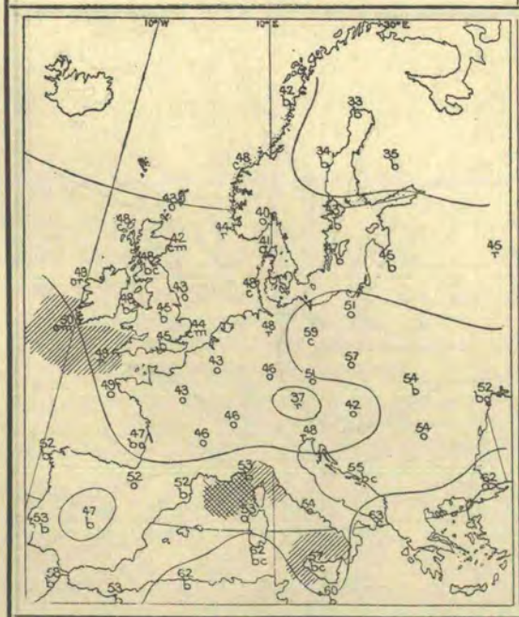
Temperature highest, 60° and upwards, over the central and southern parts of the Mediterranean; high, 55° and upwards, over the eastern parts of Germany and Austria, the north of Italy, and the coasts of the Iberian Peninsula. Lowest, 35° and less, over Northern Russia (Uleaborg 32°); 40° and less over the northern parts of Scandinavia. Daily maxima below 50° in many parts of Great Britain, but thermometer rising above 70° in Austria, Italy, and Algeria.

Wind light from the Eastward over the Baltic, Denmark, and the south of Scandinavia; moderate to strong from North-East or North over our Islands, and from the North-Westward over Spain, the west and south of France, and the central parts of the Mediterranean. Light to fresh from between South-West and South-East over Central and Eastern Europe. Subsequently backing to the Westward or South-Westward in Ireland.

Barometer highest, 30·3 ins. and upwards, over Central Sweden; high, 30·2 ins. and upwards, over Portugal and the south of Spain, and also over the south of Russia. Lowest, 29·7 ins. and less, in a large depression lying over the Netherlands, North Germany, and the north-east of France, and also in two smaller disturbances lying respectively over the south-east, of France and the northern part of the Adriatic. All three systems subsequently moving eastwards, but new depression appearing off the west of Scotland.

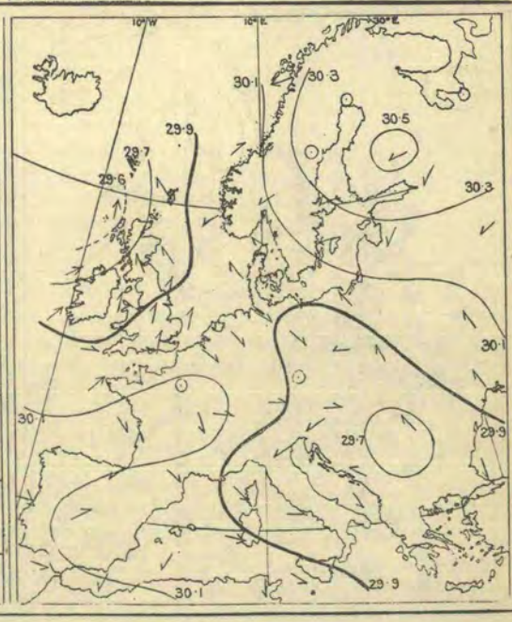
Friday, 26th April.

Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**

Barometer and Wind. — **6 p.m.**



Weather dull and rainy in Ireland and the south-west of England, as well as in the south of Norway and some parts of Austria and South Germany. Fine in most other localities, but foggy over Central England. Rain extending later to nearly all parts of the United Kingdom, and thunderstorms occurring at some of the German stations.

Temperature highest, 60° and upwards, over the central and southern parts of the Mediterranean; high, 55° and upwards, at some of the Austrian and German stations; lowest, 35° or less, in Finland and the north of Sweden; 40° or less over Northern Russia generally. Subsequently rising a little above 60° in some parts of England, and a little above 70° at some of the German stations.

Wind light or moderate from the Eastward over Russia and Northern Europe, and from the South-Eastward over the northern and north-western parts of our Islands, but fresh from the Southward on our south-west coasts. Westerly or North-Westerly over the Channel and France, and South-Westerly in Italy, but light and variable over Spain and Algeria. Subsequently backing to the South-Westward or Southward in all parts of the United Kingdom.

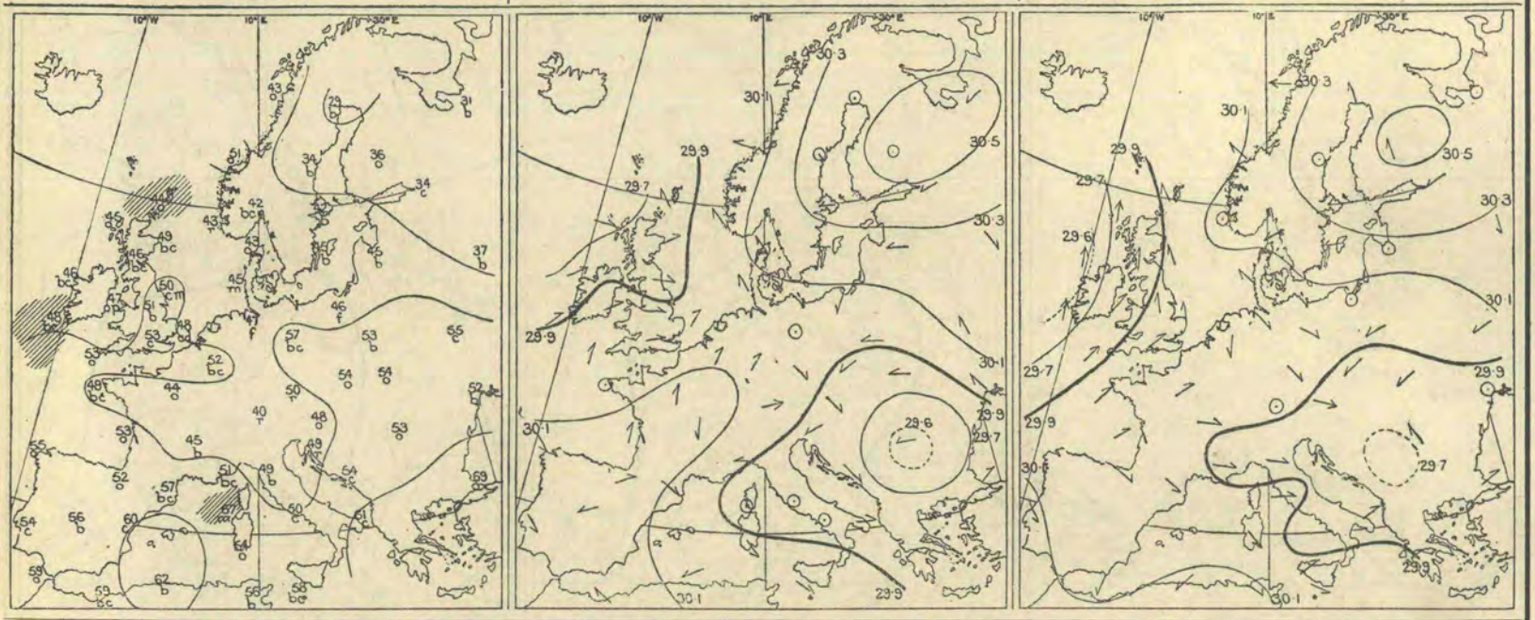
Barometer highest, 30·4 ins. and upwards, over Finland and the north of Sweden; high, 30·2 ins. and upwards, over the north of Spain. Lowest, 29·7 ins. and less, in a depression lying to the north-westward of our Islands, and also in an elongated system extending from the south of Austria to the Gulf of Genoa. Former disturbance subsequently moving slowly northwards along the west of Scotland; latter system moving eastwards and partially filling up.

II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 27th April.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine and bright in the morning, both over Northern and South-Western Europe, cloudy elsewhere, and in many places changeable and showery. Rain falling at times during the day over the British Islands and North-Western Europe, but very little elsewhere. Thunder and lightning in the south of Ireland.

Temperature below the freezing point in the far north only, where the minimum readings in the early morning were very low; not exceeding 60°, except over Algeria and the extreme south of Europe, and exceeding 50° at very few of our own stations. Rising to more than 60° in several parts of Great Britain later, and to upwards of 70° at many stations over Southern and Central Europe.

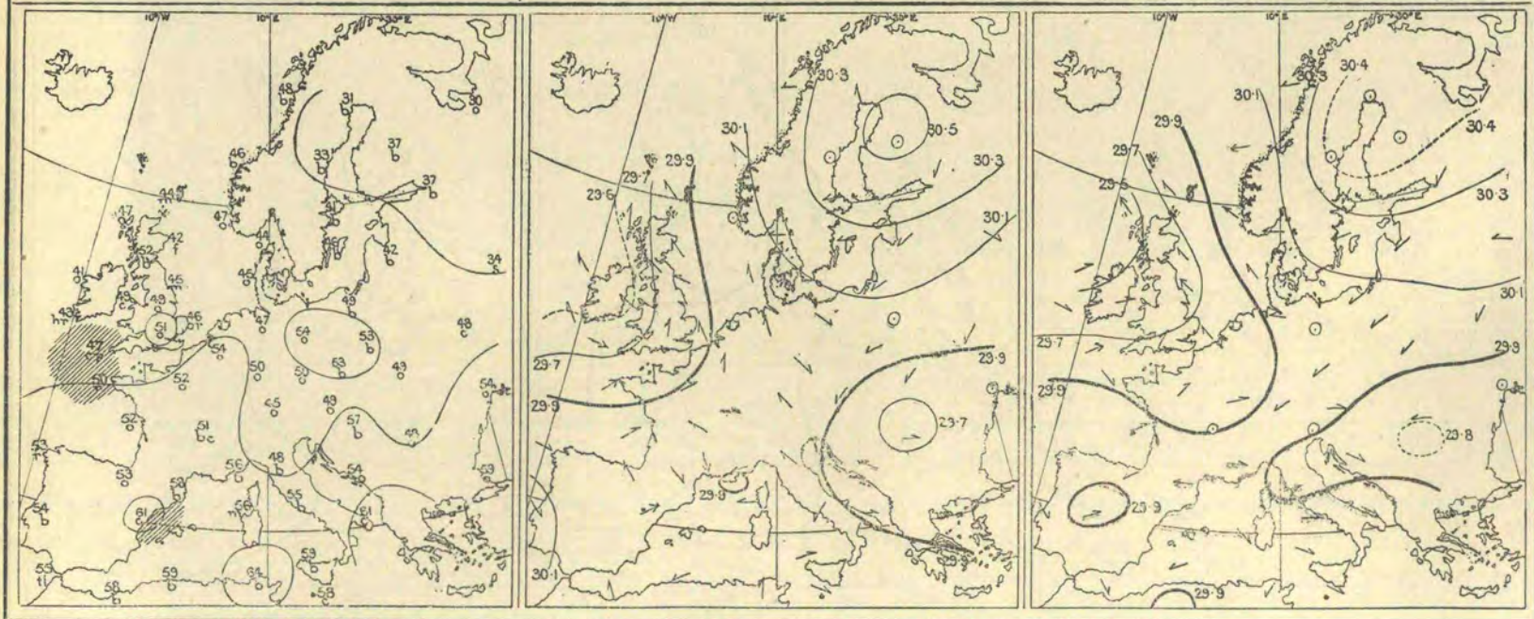
Wind Easterly over the Baltic and Scandinavia, South-Westerly to Southerly over the British Islands and North Sea, variable over Spain, France, and Germany. Cyclonic circulation of light winds prevalent over South-Eastern Europe. Wind becoming stronger and more Southerly over the British Islands later, especially in the west; very little change observed elsewhere.

Barometer highest, 30·1 ins. to 30·6 ins., over Finland, Scandinavia, and the north of Russia, and above 30·1 ins. over the Iberian Peninsula and the greater part of France; lowest, 29·5 ins. to 29·8 ins., in a depression over South-Eastern Europe, and below 29·7 ins. in another depression lying to the North-Westward of Scotland. Fresh and decided fall of the barometer taking place in the west of our Islands later; the disturbance over South-Eastern Europe moving very erratically and tending to fill up.

Sunday, 28th April.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine or fair over the greater part of Europe, but very changeable over the British Islands and their neighbourhood, where clear bright conditions alternated with sharp showers of rain, and in some places hail. Thunderstorms in some parts of Ireland, England, and North Germany during the day, but weather fair elsewhere.

Temperature at 8 a.m. very little below the freezing point even in Lapland and the extreme north of Russia; below 50° in all parts of our Islands, and ranging between 50° and 60° over Southern Russia, Austria, and many parts of France and Spain. Exceeding 60° at Barcelona only. Rising to 70° and more in many parts of Southern and Central Europe during the day, 64° at Berlin, and to between 55° and 60° in some parts of Great Britain; following night frosty on the ground over our eastern counties.

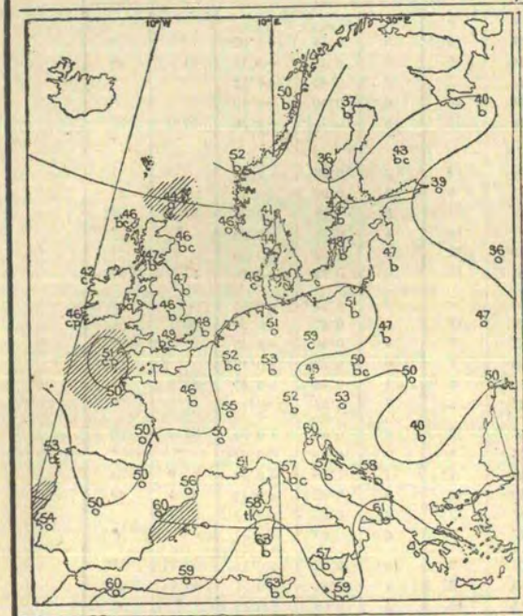
Wind still Easterly (but light) over the Baltic and also over Poland, Eastern Germany, and Austria, variable between South-East and South-West over the United Kingdom, South-Westerly over the Bay of Biscay, and North-Westerly in Portugal. Freshening from South-West and South over the United Kingdom later, but not changing much elsewhere.

Barometer continuing highest (30·0 ins. to 30·5 ins.) over Northern Europe, and remaining above 30·0 ins. over the Spanish Peninsula; low, relatively, in disturbances over South-Eastern Europe and the Mediterranean, as well as over the western parts of the British Islands. Depressions in latter regions moving northwards but spreading eastwards for a time. Conditions changing little later.

II.—SUMMARY OF WEATHER OVER EUROPE.

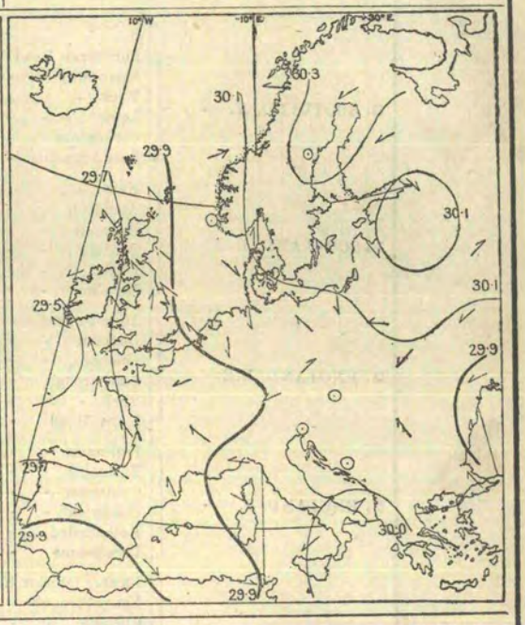
Monday, 29th April.

Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**

Barometer and Wind. — **6 p.m.**



Weather in morning fine over the greater part of Europe, dull over Southern Russia, changeable and showery over the western, and unsettled looking over the eastern parts, of our Islands. Showers in many parts of the British Islands and France during the day, and thunderstorms in some parts of Germany. Rainfall large at Oxö, Roche's Point, Brest, and Monaco.

Temperature in morning above the freezing point at all stations, and above 40° except in Lapland and the north of Sweden. Still below 50° over the British Isles, but exceeding 60° at several of the Mediterranean stations, and marking 59° at Berlin. Maxima of 70° and more in several parts of Central Europe, but no reading exceeding 60° reported in our Islands.

Wind South-Westerly, moderate, over Spain, the Bay of Biscay, and north of France, Southerly in the British Islands, and South-Easterly over Denmark, Norway, and the Shetlands. Very variable over Europe and the Mediterranean and of little force. Backing towards South-east, and falling light, in our Islands later.

Barometer still highest (30·0 ins. to 30·4 ins.) over Northern Europe, and slightly above 30·0 ins. over the south-west of Spain; lowest to the westward and north-westward of our Islands, the gradients being moderate over the United Kingdom and slight elsewhere. The depression over South-Eastern Europe disappearing, but another, shallow one, forming over the Baltic Provinces, and a new one approaching our south-western coasts and spreading eastwards.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

The weather during this week has been of a very changeable showery character over the British Islands and North-Western Europe, but comparatively fair elsewhere. Between the 23rd and 25th a depression of no great depth advanced in a south-easterly direction across the British Islands to Germany. The distribution of pressure, which until this time had been comparatively uniform over Southern, Central, and Eastern Europe, at once became complex in those regions, and while a succession of shallow depressions appeared off the western parts of the British Islands, a well-marked, but not deep, system lay over South-Eastern Europe till nearly the close of the week, and was supplemented by smaller disturbances over the Gulf of Genoa, and Northern Italy. After Wednesday pressure was continuously highest over Northern Europe, and somewhat high over the Spanish Peninsula, but the gradients were never steep in any district.

III.—DATA from which the SUMMARY on page 97 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	50	37	46·0	38·9	42·3	− 1·8	15	9	3	0·14	−0·32	*	*
	Stornoway	56	36	50·0	38·3	43·9	− 1·6	29	10	5	0·45	−0·14	51·9	40
	Wick	55	32	49·3	39·6	44·2	− 0·6	25	7	6	0·47	+0·12	*	*
	Lairg ℳ	58	31	51·0	36·3	43·3	− 0·9	33	16	6	0·40	−0·10	*	*
	Glencarron ℳ	58	34	51·9	36·5	43·8	− 0·8	36	15	5	0·83†	−0·16	35·0	33
	Fort Augustus ℳ										†		*	*
1. SCOTLAND, E.	Nairn	58	33	52·4	38·3	45·0	− 0·9	37	10	4	0·56	+0·24	*	*
	Aberdeen	54	35	48·3	39·1	43·5	− 2·2	23	8	5	0·93	+0·43	29·5	28
	Braemar ℳ	53	28	47·7	35·1	41·1	− 1·7	16	26	5	1·12	+0·56	24·3‡	23‡
	Ochtertyre ℳ	58	30	55·1	36·9	45·6	− 0·1	47	14	4	0·24	−0·29	*	*
	Leith	58	35	53·3	38·0	45·3	− 2·2	40	11	5	0·84	+0·45	*	*
	Marchmont ℳ	57	33	50·4	36·7	43·2	− 2·6	31	15	6	0·72	+0·15	27·5	27
2. ENGLAND, N.E.	Alnwick Castle	57	33	49·4	38·7	43·8	− 2·4	26	9	6	0·37	−0·15	*	*
	Durham	61	34	55·0	37·5	45·8	− 0·7	46	13	4	0·27	−0·24	30·7	30
	Shields	55	36	51·0	39·1	44·8	− 2·0	32	8	6	0·20	−0·23	*	*
	Scarborough ℳ	58	35	51·5	39·7	45·3	− 2·2	33	6	6	0·93	+0·49	? ‡	? ‡
	York	62	35	57·1	39·3	47·8	− 0·7	52	8	4	0·38	−0·05	47·1	46
	Spurn Head	54	39	49·9	41·4	45·5	− 2·2	27	2	7	0·38	?	*	*
3. ENGLAND, E.	Hillington ℳ	60	31	55·4	38·7	46·7	− 2·9	47	9	6	0·46	+0·04	33·0	32
	Yarmouth	54	36	49·6	40·4	44·8	− 5·0	26	4	7	0·48	+0·07	*	*
	Geldeston	58	34	54·5	39·4	46·6	− 2·8	43	7	7	1·10	+0·73	33·9	34
	Cambridge	61	33	57·1	37·7	46·9	− 3·7	52	12	6	0·82	+0·42	40·4	40
	Rothamsted	60	32	53·9	37·4	45·3	− 3·8	42	13	6	0·66	+0·16	*	*
	Ingatestone	59	35	55·4	38·7	46·7	− 4·9	47	9	6	0·89	+0·50	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	63	35	58·3	38·7	48·0	− 1·6	56	9	5	0·53	+0·12	42·0‡	41‡
	Loughborough	63	35	57·4	39·1	47·8	− 1·6	53	8	4	0·42	−0·01	46·6‡	46‡
	Cheadle ℳ	57	34	54·4	37·4	45·5	− 2·1	44	13	4	0·69	+0·18	*	*
	Churchstoke ℳ	59	30	53·4	34·8	43·7	− 5·6	42	20	5	0·57	+0·17	33·4	33
	Hereford ℳ	61	32	56·0	36·9	46·0	− 3·8	49	14	5	0·81	+0·39	*	*
	Cirencester	57	?	53·4	?	?	?	?	?	5	0·70	+0·18	40·9	40
	Oxford	59	32	54·7	38·6	46·3	− 3·7	44	20	5	0·55	+0·13	35·3	35
5. ENGLAND, S.	London	62	35	56·6	40·6	48·2	− 2·4	49	4	7	0·92	+0·50	34·6‡	35‡
	Strathfield Turgiss ℳ	59	33	54·6	38·4	46·1	− 3·2	44	10	5	0·68	+0·27	*	*
	Dungeness	57	35	53·4	42·3	47·6	− 3·0	39	0	7	0·44	+0·03	*	*
	Hastings (St. Leonard's)	53	37	52·0	42·2	46·9	− 3·3	48	0	7	0·85	+0·39	42·3	42
	Southampton	58	35	55·6	39·9	47·4	− 2·8	47	6	5	0·54	+0·06	38·1	38
	Hurst Castle	54	37	52·7	42·0	47·1	− 3·3	36	0	5	0·71	+0·29	*	*
	Stowell ℳ	55	34	52·5	38·0	44·9	− 4·9	37	11	5	0·94	?	27·9‡	28‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	58	31	52·7	40·3	46·2	− 0·7	37	5	4	1·07†	+0·21	*	*
	Glasgow	57	37	53·2	40·0	46·3	− 0·4	39	6	3	0·14	−0·33	35·6	35
	Ardrossan	54	37	51·3	41·1	46·0	− 0·8	32	3	4	0·77	+0·25	*	*
	Glenlee S	57	28	52·0	36·5	43·9	− 2·3	36	15	5	1·03†	+0·39	*	*
	Douglas (Isle of Man)	54	33	51·4	39·8	45·3	− 2·6	32	6	5	0·81	+0·29	49·4	48
7. ENGLAND, N.W.	Newton Reigny (Penrith)	58	32	53·1	37·4	44·9	− 1·9	40	13	6	0·42	0·00	36·7	36
	Barrow-in-Furness	55	38	53·3	41·1	46·9	− 2·2	38	3	4	0·51	+0·07	*	*
	Stonyhurst	59	34	55·0	38·2	46·2	− 2·0	45	11	5	0·68	+0·11	41·3	40
	Blackpool ℳ	56	36	53·1	39·6	46·0	− 3·5	38	7	4	0·48	+0·08	48·1	47
	Manchester	58	35	54·8	38·5	46·3	− 2·0	45	10	5	0·54	+0·06	*	*
	Liverpool Obsy (Bidston)	57	36	54·3	40·0	46·8	− 2·2	42	6	6	0·59	+0·22	*	*
	Llandudno ℳ	56	37	52·7	40·3	46·2	− 3·8	37	5	5	1·05	+0·66	35·7	35
	Holyhead	54	38	51·4	42·0	46·5	− 3·7	32	0	5	0·51	+0·10	*	*
8. ENGLAND, S.W.	Llandovery	58	30	55·3	36·6	45·5	− 4·9	47	15	6	1·05	+0·41	*	*
	Pembroke	51	42	49·9	43·9	46·8	− 3·2	34	0	6	0·49	+0·01	46·7	46
	Arlington (N. Devon)	55	34	51·6	37·9	44·4	− 4·8	34	11	5	1·10	+0·40	*	*
	Cullompton ℳ	57	32	54·4	36·9	45·2	− 5·0	44	14	5	0·61	+0·01	38·5	39
	Falmouth	56	40	53·2	40·8	46·7	− 3·3	38	3	7	1·11	+0·41	51·0	51
	Plymouth	59	38	55·8	41·7	48·4	− 2·6	46	1	5	0·79	+0·22	49·4	49
	Prawle Point	57	36	51·7	40·0	45·6	− 4·4	34	6	4	0·49	?	*	*
9. IRELAND, N.	Malin Head	53	38	49·0	41·1	44·9	− 2·9	24	3	4	0·62	?	*	*
	Londonderry	63	38	53·5	39·6	46·2	− 2·2	39	7	5	0·60	+0·07	*	*
	Mullaghmore	56	38	51·0	40·6	45·6	− 3·5	31	4	5	1·33	+0·84	*	*
	Belmullet	53	40	51·4	41·9	46·4	− 2·6	31	0	7	0·80	?	*	*
	Markree Castle	54	33	51·1	37·7	44·1	− 5·0	33	12	6	1·69	+1·14	42·6	41
	Brookeborough	53	35	50·5	37·0	43·4	− 5·3	31	14	5	0·80	?	*	*
	Armagh	54	35	51·9	38·6	44·9	− 3·5	35	10	5	0·39	−0·11	35·7	35
	Donaghadee	53	42	51·6	43·3	47·3	− 1·4	37	0	5	0·43	−0·06	*	*
	Edgeworthstown	54	33	51·9	36·7	43·9	− 5·7	36	15	7	1·11	+0·38	*	*
10. IRELAND, S.	Dublin	55	39	53·0	41·2	46·8	− 2·8	37	2	7	0·84	+0·36	38·8	38
	Parsonstown	55	34	53·1	37·6	45·0	− 4·3	39	12	6	1·05	+0·55	43·7	43
	Kilkenny	55	35	53·1	38·9	45·7	− 3·8	39	9	6	0·78	+0·28	*	*
	Waterford	55	37	53·4	39·6	46·2	− 3·7	39	7	7	0·74	+0·10	*	*
	Roche's Point	55	39	52·7	42·9	47·6	− 2·4	39	0	6	2·19	+1·43	*	*
	Valencia	56	38	52·9	42·1	47·2	− 2·8	36	0	7	1·47	+0·64	43·7	43
	Killarney	57	34	53·1	39·0	45·7	− 4·2	39	8	7	2·04	?	*	*
	Foynes	55	36	52·0	42·1	46·8	− 2·4	34	0	6	1·62	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	56	42	53·0	44·9	48·8	− 2·0	48	0	6	0·93	+0·41	*	*
	Jersey	57	42	55·1	43·9	49·2	− 1·5	50	0	5	0·82	+0·37	41·7	42

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked S with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 18.] *Third Series.* WEEK ENDING MONDAY, 6TH MAY, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861-80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866-85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881-85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 108.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	74	38	55·2	43·3	48·9	3 above.	48	+17	0	− 9	203	− 9	514	+ 27
	1. SCOTLAND, EAST	71	35	56·1	42·1	48·7	3 above.	47	+ 5	0	− 7	273	−26	548	+ 20
	2. ENGLAND, N.E.	72	36	54·8	42·7	48·4	1 above.	45	+ 3	0	− 6	253	−49	488	+ 15
	3. ENGLAND, EAST	77	35	61·7	43·0	51·8	1 above.	69	+15	0	− 7	317	−88	619	+122
	4. MIDLAND COUNTIES	76	34	63·3	42·7	52·4	3 above.	73	+16	0	− 8	347	−86	564	+ 71
	5. ENGLAND, SOUTH	75	40	62·0	46·4	53·7	3 above.	82	+23	0	− 4	371	−89	448	+ 79
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	73	38	58·3	44·8	51·1	4 above.	64	+19	0	− 6	307	−32	375	− 14
	7. ENGLAND, N.W.	72	35	60·2	45·1	52·2	3 above.	71	+22	0	− 5	288	−53	382	+ 4
	8. ENGLAND, S.W.	74	40	57·3	45·7	51·2	1 above.	64	+ 9	0	− 2	409	−84	321	+ 90
	9. IRELAND NORTH	68	37	58·2	45·4	50·4	1 above.	59	+11	0	− 5	379 *	−30	297	− 46
	10. IRELAND, SOUTH	61	37	55·5	45·8	50·4	0 (average).	53	+ 4	0	− 3	493	−36	225	− 10
	— CHANNEL ISLANDS	64	42	55·7	47·4	51·3	0 (average).	65	+ 6	0	0	516	−34	77	− 16

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 108.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	4	3	1 less.	98	+18	16·6	+1·2	35	32	290	− 81	21	− 6
	1. SCOTLAND, EAST	3	7	2 more.	75	+11	8·2	−2·1	30	28	317	− 98	28	− 7
	2. ENGLAND, N.E.	2	4	1 less.	67	+ 4	7·3	−0·9	32	31	316 *	− 25	23	− 2
	3. ENGLAND, EAST	3	4	1 less.	70	+ 5	6·0	−1·6	47	43	333	−105	24	− 7
	4. MIDLAND COUNTIES	3	5	0 (average).	64	+ 3	9·8	+0·8	34	32	311	− 79	22	− 6
	5. ENGLAND, SOUTH	4	4	0 (average).	69	+ 9	7·7	−1·4	37	36	321	− 91	23	− 7
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	5	10	3 more.	78	+ 6	14·5	−2·1	29	28	347	− 26	25	− 2
	7. ENGLAND, N.W.	4	6	2 more.	72	+ 7	9·4	−2·3	31	30	328	− 38	24	− 3
	8. ENGLAND, S.W.	5	6	0 (average).	68	− 1	12·1	−2·6	24	23	406	− 50	29	− 4
	9. IRELAND, NORTH	6	14	9 more.	89	+11	13·0	+1·5	22	21	296	−100	21	− 7
	10. IRELAND, SOUTH	6	16	10 more.	79	+ 5	12·6	−1·5	26	25	393	− 56	28	− 5
	— CHANNEL ISLANDS	5	8	3 more.	78	+ 2	8·9	−2·5	33	35	478	− 71	34	− 5

General Remarks.

Weather has varied considerably in different parts of the Kingdom. In the west and north it has been dull, unsettled, and rainy, while over the greater part of England the condition has been finer and rain less frequent. Thunderstorms have prevailed at times in nearly all districts.

Temperature has been above the mean in almost all parts of our Islands, the excess in most cases being 3°; in "Ireland, S." and the "Channel Islands", however, the mean value for the time of year has been only just equalled. The highest of the maxima, which were recorded in most places on the 5th, ranged from 61° to 68° in Ireland, from 73° to 74° in Scotland, and from 72° to 77° over England. The lowest of the minima were registered either on April 30th or May 2nd, and varied from 34° in the "Midland Counties" to 42° in the "Channel Islands".

Rainfall has been considerably more than the mean in Ireland and a little more in the west and east of Scotland, but in most parts of England and in the north of Scotland the fall has not differed materially from the normal.

Bright sunshine has been less prevalent generally than it was last week, the percentage of the possible duration having ranged from 21 to 25 in Ireland, from 28 to 32 in Scotland, and from 23 to 46 over England.

Barometer and Wind.—During the whole of this period the barometer has been highest in the north-east and lowest in the south-west and west, where some rather shallow depressions were observed moving northwards. In addition to these disturbances some small thunderstorm depressions appeared in different parts of the Kingdom. South-Easterly and Southerly winds of little strength were generally prevalent over our Islands, but at the commencement of the period they blew freshly or strongly over all the more western and northern districts.

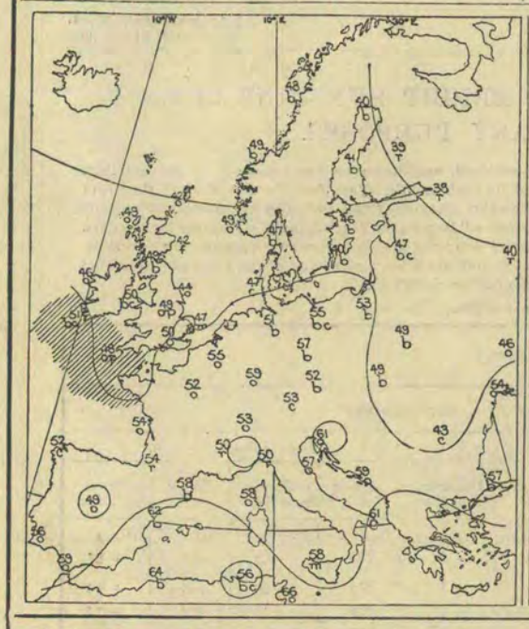
* This value has been altered owing to the receipt of further information.

A 58630. 350.—5/89. Wt. 36. E. & S.

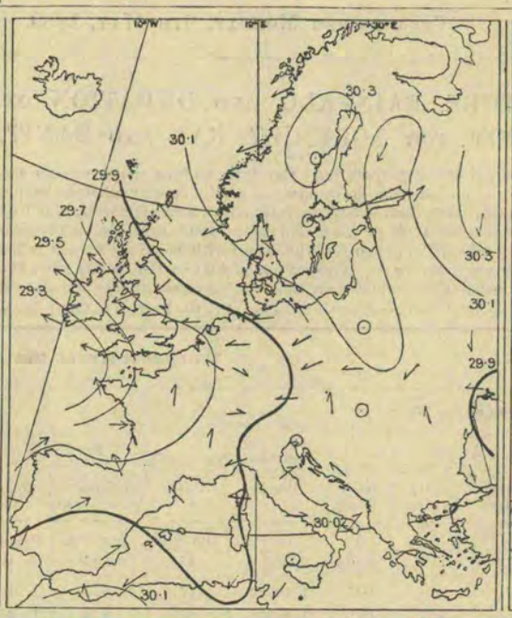
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 30th April.

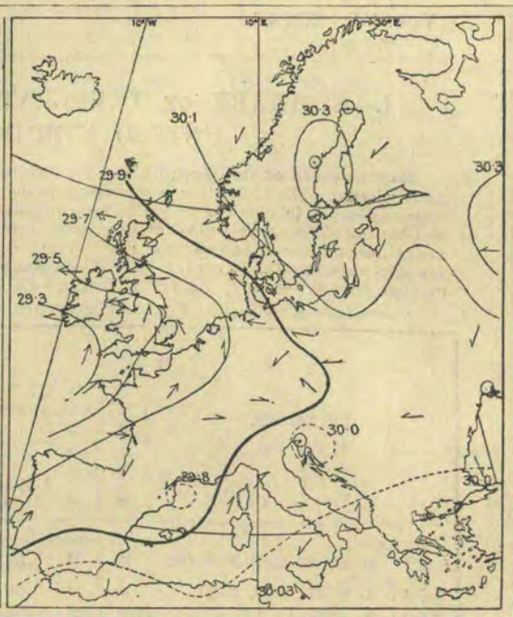
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather in a very changeable condition generally, clear in many places, cloudy in others, and rainy at many stations situated in all countries in Europe. Rain falling very generally over the British Isles, Holland, and France later, as well as in several parts of Spain, Germany, and Italy, the fall being heavy in some localities; thunderstorms in several regions.

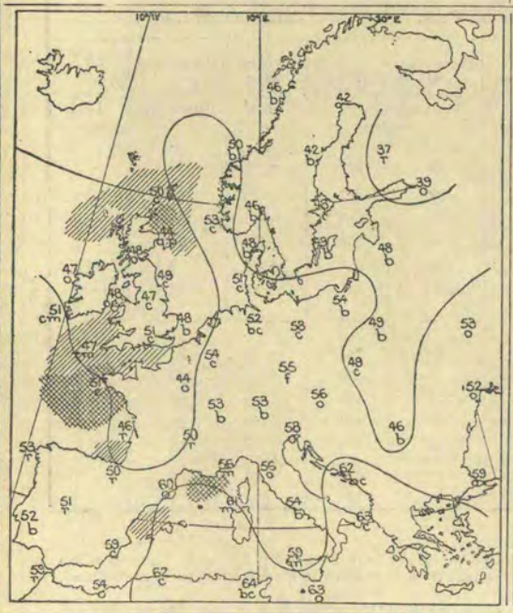
Temperature slightly below 40° over Finland and Northern Russia; very little above that value in the east of Scotland; above 50° in France, Germany, and some parts of the British Islands; exceeding 60° on the southern shores of the Mediterranean only. Daily maxima exceeding 60° in the south-east of England later and in many parts of France; 68° recorded at Perpignan, 75° at Cape Béarn, 73° at Palermo, and 70° at Brindisi and Prague.

Wind South-Easterly and Easterly over the British Islands, Easterly over the North Sea, and Northerly over the Baltic; South-Westerly over the Bay of Biscay and Spain, very variable over the Mediterranean and Central Europe. Fresh to strong in force at the most western stations, light to moderate in the east and south. Moderate South-Westerly gale over Brittany later, and wind becoming more Easterly in our Islands.

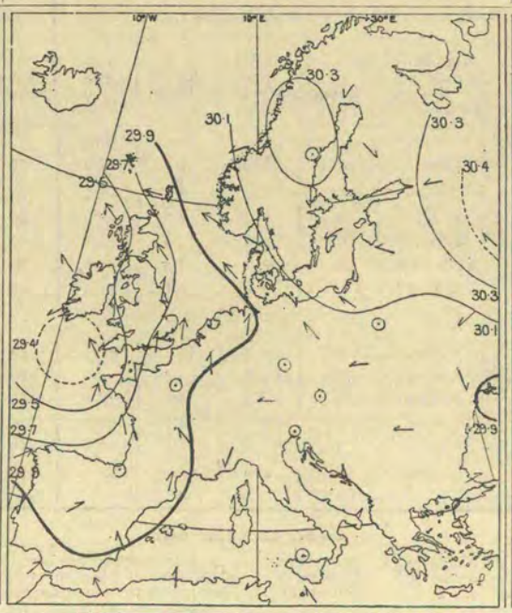
Barometer highest, 30·1 ins. to 30·3 ins. and more, over Scandinavia and Central Russia, and exceeding 30·0 in. over Algeria and the south of Spain; lowest, 29·3 ins. and less, in a large depression lying off the south-west of our Islands. Another very shallow system found over the south of Russia. Depression in the south-west spreading over Brittany later.

Wednesday, 1st May.

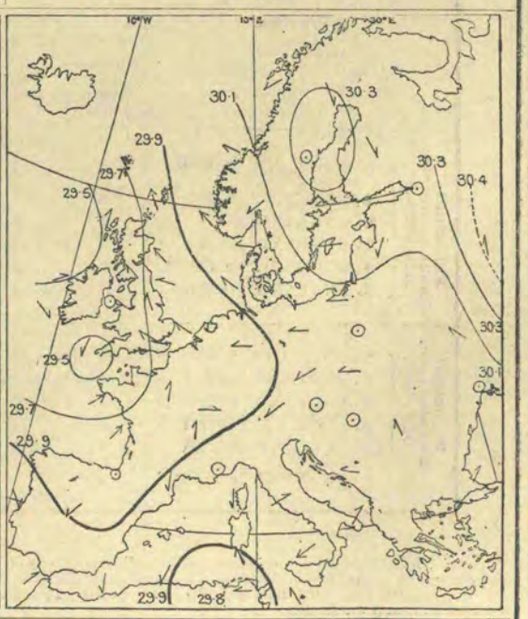
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine over Eastern, fair over Central Europe; dull and unsettled elsewhere, with rain in several places, especially in the western parts of the British Isles and France. Rain later in almost all parts of the British Islands, France, and Spain, the fall being heaviest over the Southern French Departments and the north-eastern parts of Great Britain. Thunderstorms experienced in some localities.

Temperature not changing much; morning readings below 40° in some parts of Finland and Northern Russia only, but below 50° over nearly the whole of our Islands and the north of France, and below 60° except at Lesina, Brindisi, Malta, Sanguinaire, and some of the Algerian stations. Rising to 70° and more at many of the southern and central stations later, but not reaching 60° over the major part of our Islands.

Wind South-Easterly to Southerly, moderate to strong over the United Kingdom and Holland, South-Westerly and strong over the Bay of Biscay and west of France, South-Easterly to Easterly on the eastern shores of the North Sea. Very light and variable over the Continent generally, but Southerly in Algeria. Not much change later.

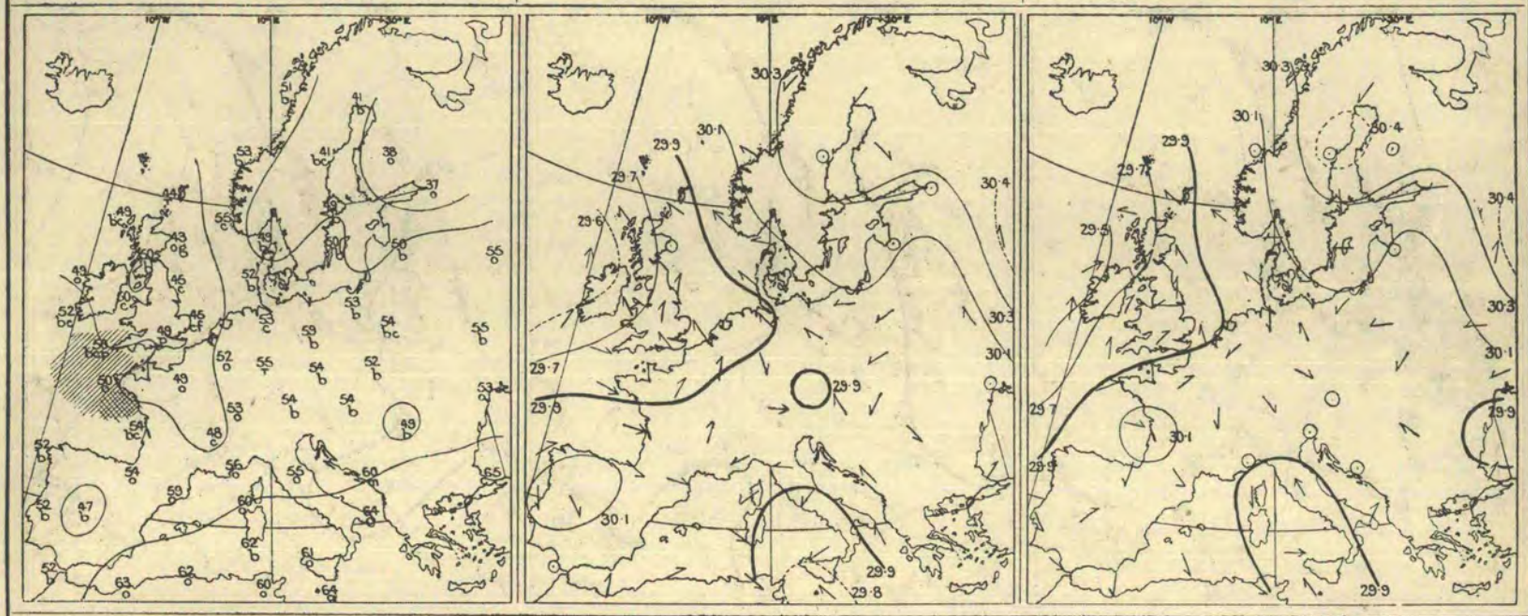
Barometer highest, 30·0 ins. to 30·3 ins., over Scandinavia, and exceeding 30·4 ins. over Central Russia; rather above 30·0 ins. over Switzerland, Italy, and South-Eastern Europe. Lowest, 29·4 ins. and less, in the depression off our south-western coasts and below 29·9 ins. over the Crimea. Both depressions tending to fill up later, but a new one appearing over Tunis.

II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 2nd May.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine over Northern, Eastern, Central, and South-Western Europe, cloudy and unsettled elsewhere, with showers in several parts of the British Islands and at some of the Dutch and German stations. Rainfall very heavy in the south of Ireland later, and considerable both in London, Cuxhaven, and Fanö. Thunder in the north-east of England.

Temperature in morning still rather below 40° over Finland, and not much above it on our own north-eastern coasts, but inclined to rise in many places. Above 60° in all parts of Algeria, Italy, at Lesina, and Constantinople, but exceeding 50° at very few of the British and Irish stations. Rising to 70° or more in several parts of Central and Southern Europe during the day, and exceeding 80° in some parts of Algeria.

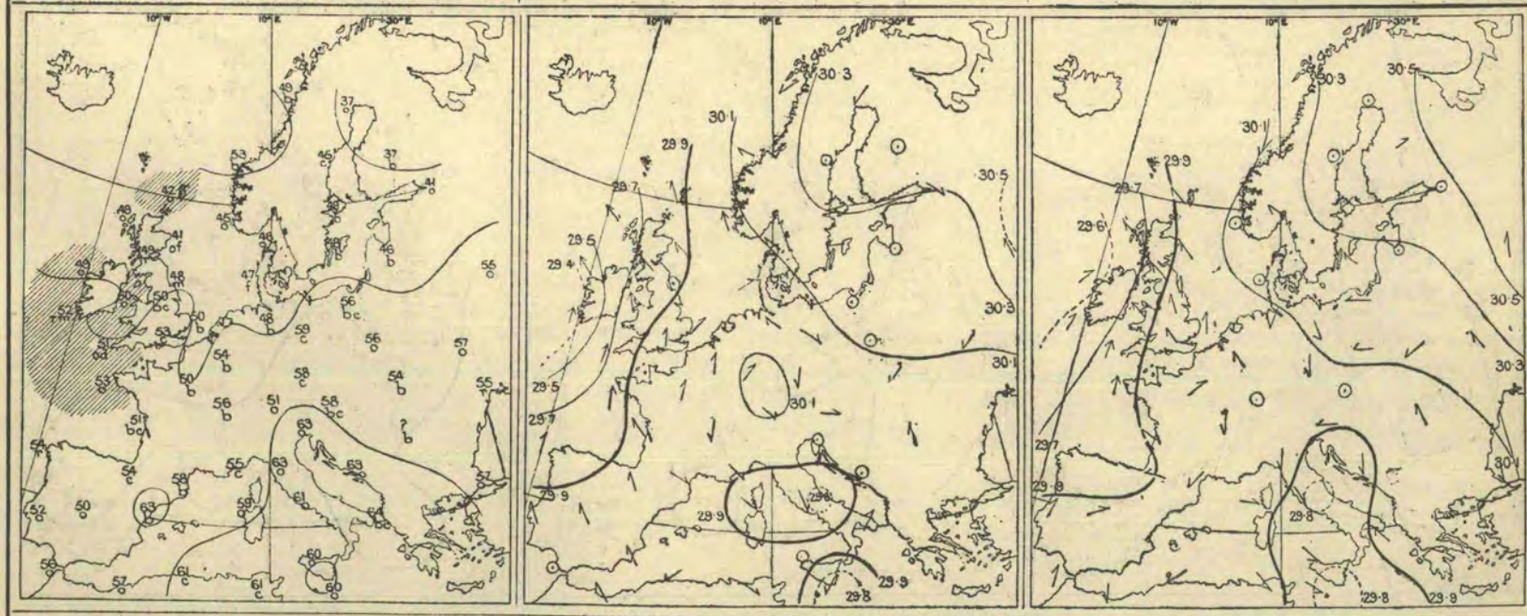
Wind South-Easterly to South-Westerly, moderate, over the British Islands, South-Easterly over the North Sea, Easterly over the Baltic and North Germany, Westerly at Scilly, Jersey, and over the Bay of Biscay, very variable over Central and Eastern Europe, Northerly over Italy, Sardinia, Sicily, and Tunis. Southerly wind becoming strong at Valencia later, and wind "backing" over Tunis.

Barometer highest, 30·0 ins. to 30·4 ins., over Scandinavia, Finland, and Central Russia, and varying from 30·0 ins. to about 30·15 ins. over Spain to the south-west of France; lowest (29·6 ins. and less) to the westward and north-westward of the British Islands, and below 29·8 ins. in a shallow depression near Malta. Little change later beyond the development of further disturbances over Italy and the south-eastern parts of the Mediterranean generally.

Friday, 3rd May.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather remaining fine over Northern, Eastern, and Central Europe, but unsettled elsewhere, with rain in a few localities. Rainfall very general over the western parts of our Islands and in Brittany during the day, and also at Oxö (Christiansand). Considerable quantities over Northern Italy also, the largest being about 1·4 ins. at Leghorn.

Temperature risen over the British Isles; not much changed elsewhere. Still below 40° over Finland in the morning, but above 50° in many parts of the United Kingdom, and reaching nearly 60° in several parts of Germany and Southern Russia. Exceeding 60° in the south of Austria, Dalmatia, Italy, Sicily, Malta, and the eastern parts of Algeria. Daily maxima exceeding 60° in several parts of England during day, and rising to nearly 70° at Berlin, to 75° at Rochefort, 77° at several of the south-western French stations, 79° at Rome, and 82° at Biskra (Algeria).

Wind strong from between South and South-East over the United Kingdom, moderate to light from the Southward over the Bay of Biscay and Spain, and from the Eastward over the Baltic, very light and variable over Central Europe and France. Cyclonic circulation of light winds over Italy and the eastern parts of the Mediterranean. Wind veering Southwards at our western stations later; not much change elsewhere.

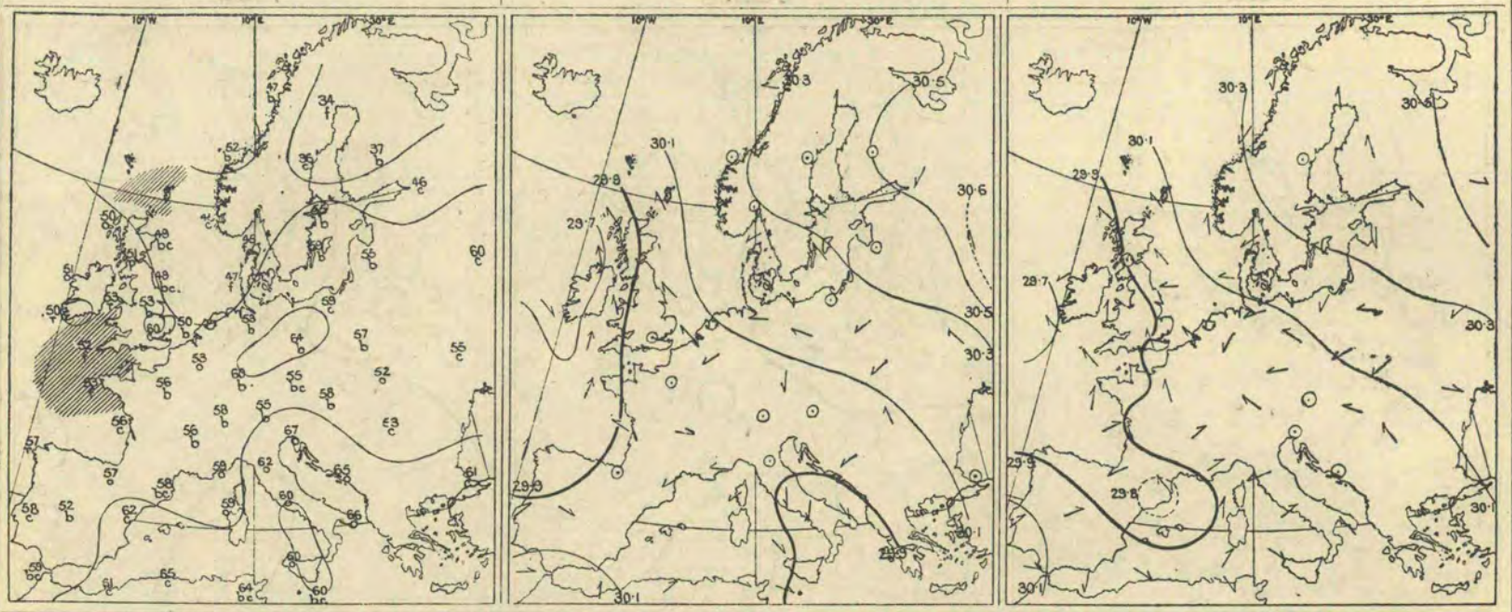
Barometer still highest (30·1 ins. to 30·4 ins.) over Russia and Northern Europe, and exceeding 30·0 ins. over Algeria and the southern half of Spain; lowest, 29·4 ins. and less, in a large depression off our western coasts, below 29·9 ins. in a complex depression over Italy, Sardinia, and Corsica, and below 29·8 ins. in another near Malta. Depression off our western coasts moving northwards later, and pressure increasing over Central Russia to more than 30·5 ins.

II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 4th May.

Temperature and Weather. **Barometer and Wind.**

8 a.m. **8 a.m.** **6 p.m.**



Weather rainy in the west and south-west of the United Kingdom, as well as at Vienna and Naples; foggy over Denmark, and also at the mouths of the English and St. George's Channels; dull at all the Italian stations. Fine over the whole of Northern, Eastern, and Central Europe, as well as over Spain and the eastern parts of Great Britain. Rain falling later on the west coasts of our Islands and France, and also at some of the Spanish and Italian stations. Lightning seen in the east of England at night.

Temperature highest, 60° and upwards, over North Germany, the Adriatic, and the Mediterranean, highest reading of all being 67° at Trieste; thermometer as high as 60°, at Cambridge and in London. Lowest, 40° and less, over Finland and the north of Sweden; a little below 50° over Norway, Denmark, and the east coasts of Great Britain. Subsequently rising to 74° in London and at Cambridge, to 75° or a little above at several of the French and German stations, and to 84° at Belfort.

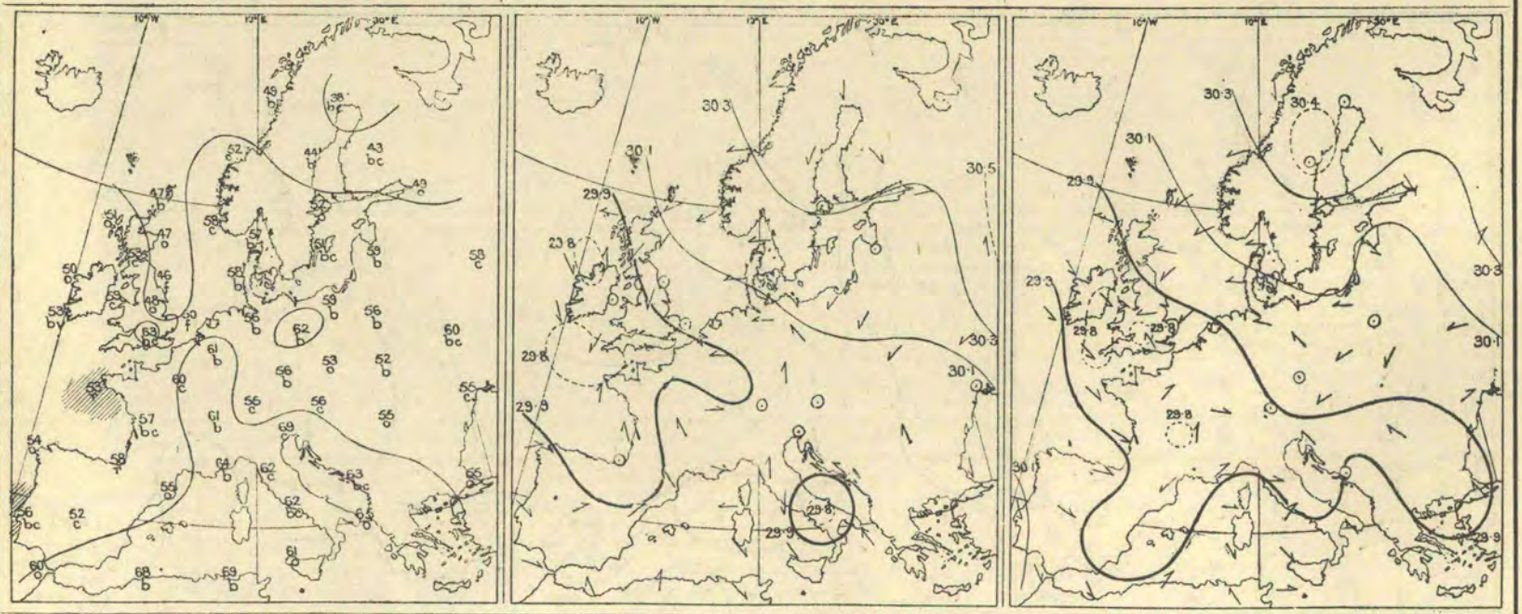
Wind fresh from the Southward on the west coasts of our Islands, but light from between South-East and East in nearly all other parts of North-Western, Northern, and Central Europe. Light from the South-Westward or Southward in Spain and Algeria, and from the North-Westward and Northward at most of the Italian stations. Subsequently backing to the South-Eastward on our western coasts, and falling light or moderate in force.

Barometer highest, 30·6 ins. and upwards, over Central Russia, and high, 30·1 ins. and upwards, over Morocco and the south of Spain. Lowest, 29·7 ins. and less, in a depression lying over and to the westward of Ireland; low, 29·9 ins. and less, in a large shallow area lying over Italy. Barometer falling slowly throughout day at our southern and the French stations, and shallow depression appearing later over the south of France.

Sunday, 5th May.

Temperature and Weather. **Barometer and Wind.**

8 a.m. **8 a.m.** **6 p.m.**



Weather dull and rainy on the west coast of our Islands and France, and foggy on the east coast of England, as well as at the mouths of the English and St. George's Channels, but fair or fine elsewhere. Thunderstorms and heavy rain occurring later in many parts of England, France, and Germany; largest amounts of rain 0·8 in. at Barrow-in-Furness and Parsonstown, 0·7 in. at Limoges, and 0·6 in. at Malin Head and Holyhead.

Temperature highest, 60° to 70°, over the Adriatic and Mediterranean; a little above 60° over some of the central parts of England, France, and Germany; lowest, 40° and less, over Eastern Lapland; low, 50° and less, over all the northern parts of Scandinavia and Russia, as well as on the north and east coasts of Great Britain. Subsequently rising a little above 75° over Central Europe and the inland parts of England; highest readings of all being 81° at Cassel and 80° at Brussels.

Wind light or moderate from the Eastward or North-Eastward over Russia and Northern Europe, as well as on the east coasts of Great Britain. South-Easterly or Southerly on most of the west coasts of our Islands and France, but light North-Westerly in the west of Ireland. Moderate from the Westward in Spain; light from the Southward in Algeria; variable over Italy and the south of France. North-Westerly breezes setting in later over all the more western parts of our Islands and France.

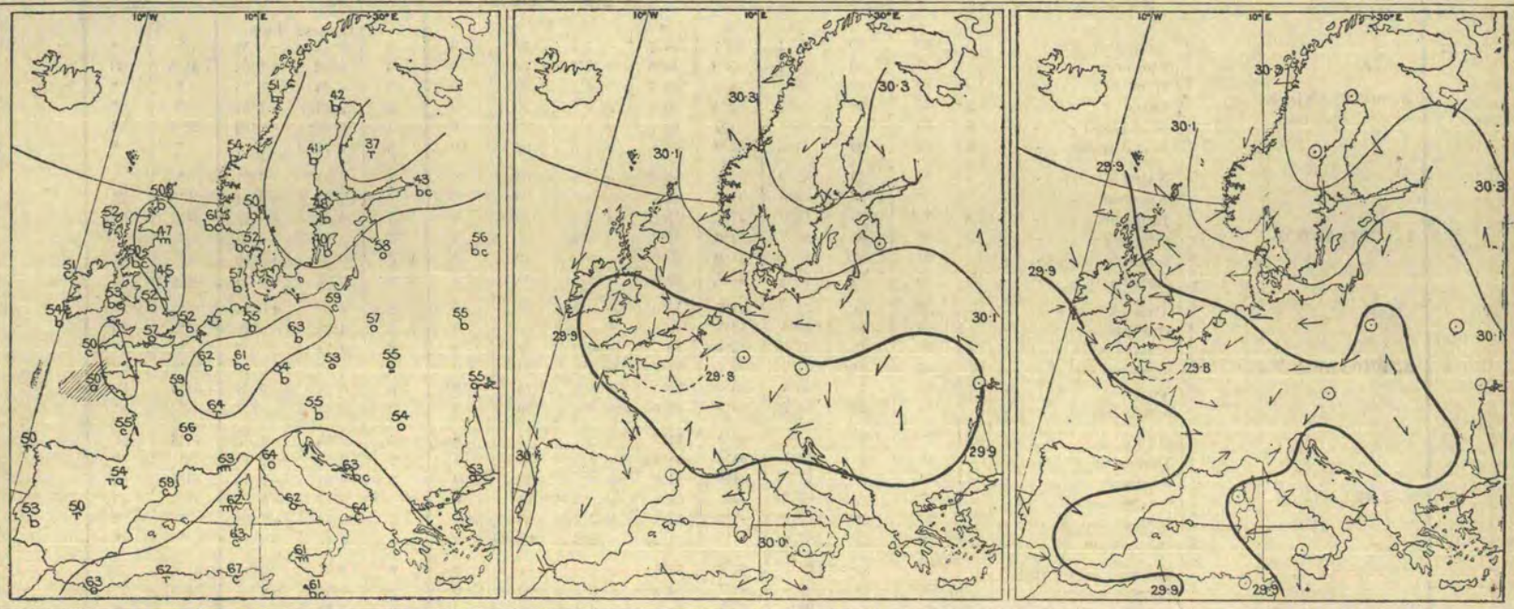
Barometer highest, 30·5 ins. and upwards, over Central Russia; 30·4 ins. and upwards over Central Sweden; 30·0 ins. and upwards over Algeria and the south of Spain. Lowest, 29·8 ins. and less, in two shallow depressions lying respectively over the north of Ireland and the extreme south-west of our Islands, and also in a third system having its centre near Naples. Further shallow disturbances appearing later over the central parts of England and France.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 6th May.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine over Great Britain and the whole of Northern and Central Europe, but foggy over our north and north-east coasts as well as at some of our western stations. Cloudy or overcast elsewhere, with rain in Ireland and also in some parts of Spain and Algeria. Thunderstorms occurring later in several parts of our Islands, France, and Germany, as well as at Algiers.

Temperature highest, 60° and upwards, over the Adriatic and Mediterranean as well as at some of the German stations, highest reading of all being 67° at La Calle. Lowest, 40° or less, over Central Finland; 45° or less over Sweden and Northern Russia; 50° or less over the northern and eastern parts of the United Kingdom. Subsequently rising to 75° in London and at Loughboro', to 76° at Brussels, to 77° at Cambridge and Berlin, and to 79° at Cassel.

Wind light or moderate from the North-eastward over the greater part of Northern and Central Europe, as well as in the east of England, and North-westerly on the west coasts of our Islands and France, as well as in Spain: light and variable in most other parts of Europe; Southerly or South-easterly in Algeria. Subsequently backing to West or South-West in the west of Ireland.

Barometer highest, 30·3 ins. and upwards, over the north of Scandinavia; 30·1 ins. and upwards over Portugal; 30·0 ins. and upwards off the south-west of Italy; lowest, 29·8 ins. and less in a shallow depression lying over Belgium, the south-east of England, and the north-east of France, but large area of low readings, 29·9 ins. and less, extending from Wales and the St. George's Channel across England, France, and South Germany, to Austria and the shores of the Black Sea. No important change occurring during day.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the earlier half of this week barometric pressure continued high over Russia and Scandinavia, and rather high over Algeria and the south of Spain. The depression which appeared off our western and south-western coasts advanced from the south-westward, and spread considerably over the British Islands and France, so that over the whole of Western Europe the weather was unsettled and rainy, and on several occasions thunder occurred at isolated stations. After May 2, the rainfall, as a general phenomena, was confined almost entirely to the western parts of the British Islands, towards the end of the week the northern high pressure area spread westwards to England, temperature rose to between 70° and 77° during the daytime on several occasions, and, except in the west and south-west, the weather was bright and fine. In the west, however, the rainfall was heavy, thunder frequent, and a shallow depression appeared, which as it moved eastwards caused severe but local thunderstorms in several parts of England and France. Over the Mediterranean several disturbances appeared between the 2nd and 6th, causing rough weather over Southern Europe.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.)								Rainfall.			Bright Sunshine.	
		Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
April 29, 1889	Scarborough	—	—	—	—	—	—	—	—	—	—	—	37·4	37

III.—DATA from which the SUMMARY on page 103 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	53	39	49·1	40·7	44·7	− 0·1	24	4	3	0·11	−0·32	*	*
	Stornoway	61	39	55·7	43·9	49·5	+ 3·7	53	0	4	0·62	+0·02	41·9	38
	Wick	53	42	51·0	42·9	46·7	+ 1·1	33	0	6	0·64	+0·28	*	*
	Lairg ℌ	63	38	56·7	42·4	49·1	+ 4·5	50	0	3	0·18	−0·32	*	*
	Glencarron ℌ	74	39	61·1	44·7	52·4	+ 7·3	73	0	3	0·33†	−0·69	28·6	26
	Fort Augustus ℌ	62	38	57·3	45·0	50·8	+ 3·6	62	0	2	0·13†	?	*	*
1. SCOTLAND, E.	Nairn	62	35	57·9	42·4	49·7	+ 3·0	54	0	1	0·05	−0·31	*	*
	Aberdeen	53	40	50·0	41·9	45·7	− 0·7	26	0	3	0·62	+0·14	27·9	26
	Braemar ℌ	71	36	56·6	42·2	49·0	+ 5·6	49	0	3	0·82	+0·29	37·3‡	35‡
	Ochtertyre ℌ	66	36	58·7	42·6	50·2	+ 3·9	57	0	5	1·36	+0·83	*	*
	Leith	67	37	57·0	41·9	49·0	+ 0·7	49	0	3	0·48	+0·10	*	*
	Marchmont ℌ	63	36	56·4	41·7	48·6	+ 2·6	47	1	4	0·83	+0·30	25·0	23
2. ENGLAND, N.E.	Alnwick Castle	56	41	51·9	42·7	47·0	+ 0·2	35	0	2	0·87	+0·36	*	*
	Durham	65	36	58·5	42·1	49·8	+ 2·3	55	0	2	0·28	−0·22	30·5	20
	Shields	56	41	51·6	42·3	46·7	− 0·9	33	0	2	0·44	+0·02	*	*
	Scarborough ℳ	57	41	51·7	42·7	46·9	− 1·2	34	0	2	0·16	−0·27	32·0‡	32‡
	York	72	41	63·1	43·0	52·5	+ 3·2	74	0	3	0·38	−0·03	34·8	33
	Spurn Head	54	42	51·9	43·6	47·5	− 0·8	39	0	2	0·27	?	*	*
3. ENGLAND, E.	Hillington ℳ	72	39	63·8	42·8	52·7	+ 2·7	75	0	3	0·34	−0·07	44·3	42
	Yarmouth	58	42	52·7	44·4	48·3	− 2·4	44	0	2	0·35	−0·06	*	*
	Geldeston	69	41	61·8	43·0	51·8	+ 2·1	69	0	2	0·34	−0·04	53·7	52
	Cambridge	77	37	66·7	42·1	53·7	+ 2·3	82	0	2	0·26	−0·14	44·3	43
	Rothamsted	73	37	63·2	43·5	52·8	+ 3·4	76	0	3	0·42	−0·06	*	*
	Ingatestone	72	35	61·9	42·1	51·4	− 0·8	66	0	3	0·43	+0·04	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	73	38	64·7	42·6	53·0	+ 2·9	77	0	2	0·07	−0·34	31·6‡	30‡
	Loughborough	76	38	65·4	42·7	53·4	+ 3·2	80	0	2	0·37	−0·06	34·3‡	33‡
	Cheadle ℳ	69	34	60·8	42·1	50·9	+ 2·5	62	0	3	1·35	+0·84	*	*
	Churchstoke ℳ	70	38	61·0	41·8	50·8	+ 1·2	62	1	5	0·70	+0·30	28·0	27
	Hereford ℳ	71	39	63·6	42·3	52·3	+ 1·9	72	0	3	0·48	+0·06	*	*
	Cirencester	74	?	62·9	?	?	?	?	?	3	0·22	−0·28	36·3	35
	Oxford	74	41	64·6	44·7	54·1	+ 3·7	85	0	4	0·16	−0·26	38·2	37
5. ENGLAND, S.	London	75	41	65·4	45·9	55·1	+ 3·8	92	0	3	0·62	+0·21	34·3‡	33‡
	Strathfield Turgiss ℳ	76	40	65·0	44·4	54·1	+ 4·4	85	0	4	0·32	−0·06	*	*
	Dungeness	63	44	58·1	46·7	52·1	+ 0·9	71	0	3	0·35	−0·05	*	*
	Hastings (St. Leonard's)	71	42	61·8	48·6	54·8	+ 4·0	90	0	5	0·35	−0·09	41·6	40
	Southampton	74	44	63·7	47·4	55·1	+ 4·3	92	0	5	0·61	+0·16	43·0	42
	Hurst Castle	70	46	60·0	48·1	53·7	+ 2·2	82	0	4	0·24	−0·16	*	*
	Stowell ℳ	66	41	60·1	43·5	51·3	+ 0·9	65	0	5	0·38	?	28·1‡	27‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	73	40	60·4	45·7	52·6	+ 5·0	74	0	5	1·27†	+0·40	*	*
	Glasgow	63	40	57·2	44·9	50·7	+ 3·4	61	0	5	0·94	+0·42	22·3	21
	Ardrossan	68	39	56·7	43·7	49·8	+ 2·3	55	0	5	0·41	−0·11	*	*
	Glenlee ℌ	72	38	60·3	43·1	51·2	+ 4·5	64	0	6	1·44†	+0·81	*	*
	Douglas (Isle of Man)	65	43	56·7	46·4	51·2	+ 3·0	64	0	6	1·03	+0·54	36·0	34
7. ENGLAND, N.W.	Newton Reigny (Penrith)	71	35	60·6	41·7	50·6	+ 3·2	61	1	2	0·13	−0·29	37·0	35
	Barrow-in-Furness	71	42	60·0	46·6	52·9	+ 3·2	76	0	6	1·24	+0·81	*	*
	Stonyhurst	71	41	60·3	44·1	51·8	+ 2·9	69	0	3	0·16	−0·41	34·9	33
	Blackpool ℳ	70	38	63·7	44·2	53·4	+ 3·4	80	0	6	0·94	+0·54	30·1	29
	Manchester	72	40	61·6	45·5	53·1	+ 3·7	78	0	2	0·45	−0·05	*	*
	Liverpool Obsy (Bidston)	71	40	60·7	46·1	53·0	+ 3·0	77	0	5	0·46	+0·08	*	*
	Llandudno ℳ	66	41	58·4	46·2	51·9	+ 1·4	69	0	3	0·54	+0·15	23·2	22
	Holyhead	62	41	56·4	46·0	50·9	+ 0·2	62	0	6	0·83	+0·42	*	*
8. ENGLAND, S.W.	Llandovery	74	40	62·6	44·6	53·1	+ 2·2	78	0	4	0·87	+0·25	*	*
	Pembroke	55	43	53·1	46·3	49·5	− 0·9	53	0	7	0·40	−0·07	20·7	20
	Arlington (N. Devon)	63	40	57·7	44·4	50·7	+ 1·1	61	0	5	0·55	−0·14	*	*
	Cullompton ℳ	66	43	59·5	45·6	52·1	+ 1·2	71	0	5	0·46	−0·09	28·1	27
	Falmouth	55	43	54·4	46·8	50·4	− 0·3	59	0	6	1·08	+0·51	18·6	18
	Plymouth	67	44	59·0	47·4	52·9	+ 1·2	76	0	5	0·27	−0·25	27·3	27
	Prawle Point	64	40	55·0	44·9	49·7	− 0·9	54	0	5	0·25	?	*	*
9. IRELAND, N.	Malin Head	59	42	53·9	45·4	49·4	+ 1·0	52	0	6	1·23	?	*	*
	Londonderry	68	43	59·6	46·4	52·6	+ 3·6	74	0	6	1·48	+0·96	*	*
	Mullaghmore	58	42	55·9	45·4	50·3	+ 0·4	58	0	7	1·45	+0·93	*	*
	Belmullet	58	41	53·6	45·4	49·3	− 0·2	51	0	5	0·86	?	*	*
	Markree Castle	59	42	56·7	45·5	50·8	+ 1·2	62	0	6	1·86	+1·34	20·7	20
	Brookeborough	66	42	57·2	44·8	50·6	+ 1·1	60	0	5	1·88	?	*	*
	Armagh	68	42	56·5	45·8	50·8	+ 1·5	62	0	6	1·21	+0·72	22·6	22
	Donaghadee	62	42	54·1	45·3	49·4	− 0·1	52	0	6	1·10	+0·61	*	*
	Edgeworthstown	62	37	58·1	44·3	50·8	+ 0·5	62	0	6	1·38	+0·87	*	*
10. IRELAND, S.	Dublin	59	44	56·3	47·1	51·4	+ 1·5	66	0	5	0·87	+0·42	20·8	20
	Parsonstown	60	40	57·7	45·6	51·3	+ 1·6	65	0	7	1·55	+1·05	17·7	17
	Kilkenny	58	43	54·7	46·7	50·5	+ 0·4	60	0	6	1·78	+1·32	*	*
	Waterford	57	45	53·3	46·7	49·8	− 0·8	55	0	6	2·29	+1·69	*	*
	Roche's Point	61	42	53·0	46·7	49·7	− 1·0	54	0	6	2·12	+1·38	*	*
	Valencia	59	40	54·9	44·4	49·3	− 1·2	51	0	6	1·94	+1·21	38·1	37
	Killarney	59	37	56·6	43·8	49·8	− 0·8	55	0	5	1·63	?	*	*
	Foynes	61	40	57·1	45·7	51·1	+ 1·2	64	0	5	0·70	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	57	44	53·7	47·1	50·2	− 1·2	57	0	6	0·99	+0·51	*	*
	Jersey	64	42	57·6	47·6	52·3	+ 0·7	72	0	4	0·56	+0·16	35·5	35

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ℌ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VI. No. 19.] *Third Series.* WEEK ENDING MONDAY, 13TH MAY, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

DISTRICTS. (See p. 114.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
	°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	74	41	59·0	45·3	51·7	5 above.	68	+34	0	− 8	271	+31	514	+ 15
1. SCOTLAND, EAST	73	36	59·5	44·4	51·5	5 above.	67	+20	0	− 6	340	− 1	548	+ 11
2. ENGLAND, N.E.	73	42	56·2	45·9	50·7	2 above.	61	+13	0	− 5	314	−31	488	+ 8
3. ENGLAND, EAST	74	42	60·1	47·5	53·4	2 above.	80	+19	0	− 5	397	−62	619	+116
4. MIDLAND COUNTIES	75	41	60·1	46·7	53·0	2 above.	77	+14	0	− 7	424	−66	554	+ 64
5. ENGLAND, SOUTH	74	41	60·2	48·2	53·8	2 above.	83	+16	0	− 2	454	−66	448	+ 76
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	72	42	59·7	47·2	53·1	5 above.	78	+27	0	− 4	385	+ 2	375	− 21
7. ENGLAND, N.W.	73	41	59·0	47·4	52·8	2 above.	76	+22	0	− 3	364	−29	382	0
8. ENGLAND, S.W.	68	34	58·1	45·7	51·6	0 (average).	67	+ 6	0	− 1	467	−73	321	+ 88
9. IRELAND NORTH	69	36	57·0	46·0	51·1	1 above.	64	+11	0	− 3	443	−14	297	− 51
10. IRELAND, SOUTH	63	37	57·0	45·5	50·9	0 (average).	62	+ 2	0	− 2	556 *	−30	225	− 13
— CHANNEL ISLANDS	62	42	57·5	48·0	52·5	0 (average).	74	+ 8	0	0	590	−20	77	− 16

Rainfall. Bright Sunshine.

DISTRICTS. (See p. 114.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
		10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	3	3	2 less.	101	+16	16·9	+1·0	38	33	328	− 82	22	− 6
1. SCOTLAND, EAST	3	3	1 less.	78	+11	8·5	−2·2	39	35	356	−102	24	− 7
2. ENGLAND, N.E.	4	7	3 more.	71	+ 4	8·0	−0·7	15	14	331	− 54	22	− 4
3. ENGLAND, EAST	5	14	9 more.	75	+ 6	7·4	−0·6	26	25	359	−127	24	− 8
4. MIDLAND COUNTIES	6	12	8 more.	70	+ 5	11·0	+1·5	12	11	323	−112	22	− 7
5. ENGLAND, SOUTH	4	4	0 (average).	73	+ 9	8·1	−1·4	14	14	335	−121	22	− 8
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	6	14	8 more.	84	+ 9	15·9	−1·1	22	21	369	− 49	25	− 3
7. ENGLAND, N.W.	6	13	8 more.	78	+10	10·7	−1·5	14	13	342	− 71	23	− 5
8. ENGLAND, S.W.	3	5	1 less.	71	− 2	12·6	−2·6	37	36	443	− 62	29	− 5
9. IRELAND, NORTH	4	8	3 more.	93	+11	13·8	+1·8	22	20	318	−127	21	− 9
10. IRELAND, SOUTH	4	10	4 more.	83	+ 5	13·6	−1·1	21	20	414	− 87	28	− 6
— CHANNEL ISLANDS	3	1	3 less.	81	+ 2	9·0	−2·8	56	53	534	− 77	35	− 5

General Remarks.

Weather has varied considerably in different parts of the Kingdom. At the commencement of the period it was fine and dry as a whole over Great Britain, but dull and rainy in Ireland and the north-west of England. Subsequently, however, the weather became very gloomy and unsettled over England, with large quantities of rain at many of the northern and eastern stations, while it remained fair in most parts of Scotland and improved somewhat in Ireland. During the earlier days of the period thunderstorms occurred in various parts of northern England as well as at some of the Scotch stations.

Temperature has continued above the mean in nearly all districts; in Scotland the excess has been 5°, but in most parts of England 2°. The highest of the maxima, which were recorded on the 9th in England and on various dates in Ireland and Scotland, ranged from 62° in the "Channel Islands" to 74° in "Scotland, N.", "England, E.", and "England, S.", and to 75° in the "Midland Counties". The minima were very uniform over the Kingdom generally and several degrees above the mean for the time of year; the lowest readings, which occurred on somewhat irregular dates, ranged from 34° in "England, S.W." to 42° in the north-east and east of England, the west of Scotland, and the "Channel Islands".

Rainfall has been more than the mean in Ireland, the west of Scotland, and in most of the English districts, but in the north and east of Scotland and in the "Channel Islands" the fall has been slight. Over eastern, central, and north-western England the excess has been very large.

Bright sunshine has been less prevalent than it was last week over Ireland, the west of Scotland, and the greater part of England, but more so over the north and east of Scotland and in the "Channel Islands". The percentage of the possible amount of duration ranged from 11 to 36 over England, and from 21 to 35 in Scotland, while in Ireland it was 20, and in the "Channel Islands" 53.

Barometer and Wind.—During the earlier part of the period depressions continued to appear over the extreme west and south-west of our Islands, and at the same time some small thunderstorm disturbances were observed more directly over us. Towards the end of the week, however, pressure increased decidedly over all the western and northern districts, while an irregularly shaped low pressure system was developed over the more southern and south-eastern parts of the Kingdom. With the former distribution of pressure light to moderate winds between South and East were most prevalent, but subsequently very light and variable airs became general over Ireland and England, while in Scotland light Easterly winds continued.

* Owing to a telegraphic error it has been necessary to alter this value slightly.

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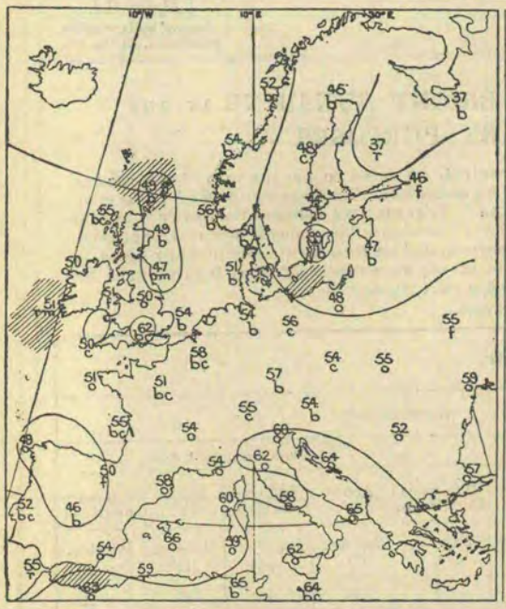
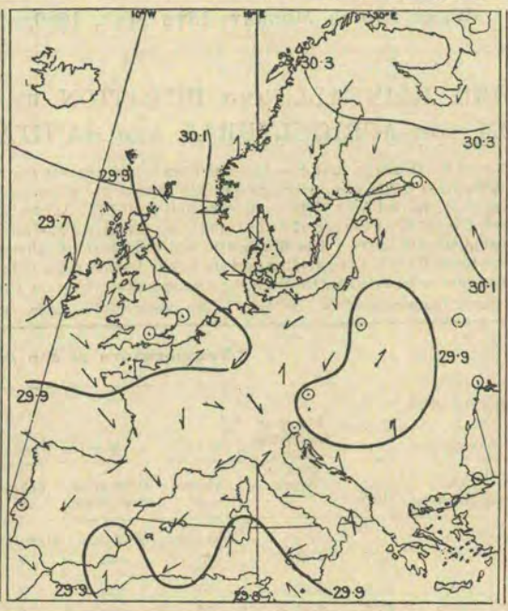
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 7th May.

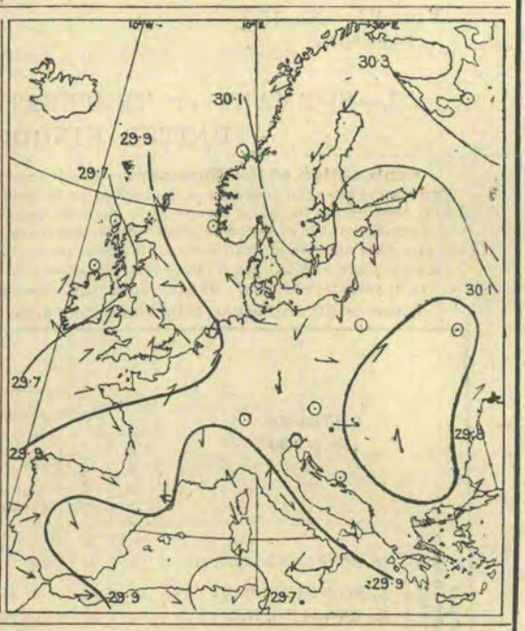
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine over the greater part of Western, Northern, and Central Europe, but foggy or misty on the coasts of the British Islands, and rainy in the south-west of Ireland. Dull over Eastern and Southern Europe and also over the Mediterranean and the greater part of Algeria, with rain at Turin, San Fernando, and Algiers. Thunderstorms occurring over Great Britain during day, and heavy rain falling in Algeria and the western parts of our Islands, the largest amounts being 1·2 in. at Algiers, 1·0 in. at Valencia (Ireland), and 0·9 inch at Aumale and Biskra.

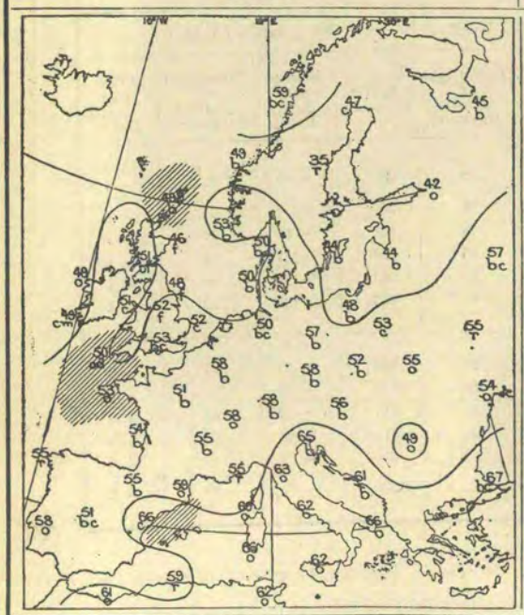
Temperature highest, 60° to 67°, over Italy, the Adriatic, and the greater part of the Mediterranean; high. 62°, in London. Lowest, 40° or less, over the northern parts of Russia and the Baltic. Subsequently rising to 75° or a little above at some of the inland stations in England and France as well as over the south of Italy, and reaching 90° at Biskra (Algeria).

Wind light or moderate from the North-Eastward or Northward over Sweden, Northern Russia, the Baltic, and North Germany, from the Eastward over Denmark and the North Sea, and from the South-Eastward in the west and north of our Islands. Light from between South-West and North-West over France, variable over Eastern, Central, and Southern Europe. Subsequently veering to the South-Eastward over the North Sea, and to the South-Westward in the west and south of our Islands.

Barometer highest, 30·3 ins. and upwards, over Lapland and Northern Russia; high, 30·0 ins. and upwards, over the southern part of the Bay of Biscay and the western part of the Iberian Peninsula. Lowest, 29·7 ins. and less, in a shallow depression lying off the west of Ireland; 29·8 ins., and less, in another disturbance lying over Tunis; 29·9 ins. and less, in a large area lying over Austria and Western Russia. Depression off west of Ireland subsequently spreading eastwards, and barometer falling over the whole of the United Kingdom.

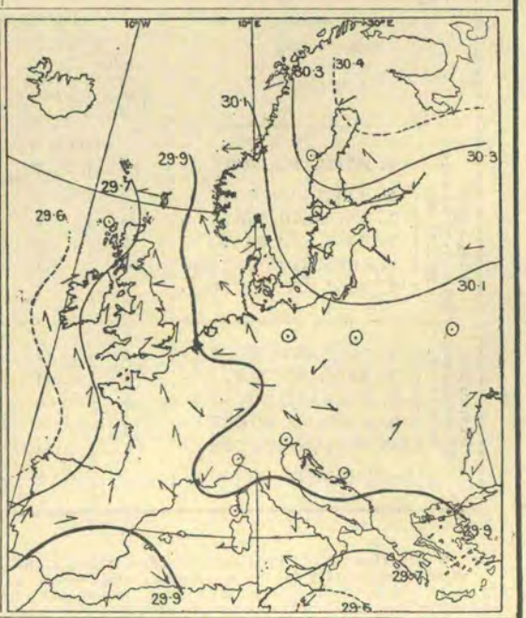
Wednesday, 8th May.

Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**

Barometer and Wind. — **6 p.m.**



Weather fine over the greater part of Northern and Central Europe as well as in Spain and the south-east of England, but rainy at Uleaborg and Hernösand. Dull elsewhere, with fog on the north and north-east coasts of Great Britain, and rain in the extreme north-west and south-west of our Islands, as well as at Corunna and some of the Algerian stations. Solar and lunar halos observed in many parts of England later, and thunderstorms occurring on our south-west coasts as well as at some of the German stations.

Temperature highest, 60° to 66° over Italy, the Adriatic, and the Mediterranean; 55° and upwards over Central Europe. Lowest, 40° or less, over Central Sweden; 45° and less, over Northern Russia and the Baltic. Maxima over England about 10° lower than on previous day, but thermometer rising above 70° at several of the French and German stations, and reaching 75° or a little above in some parts of Italy.

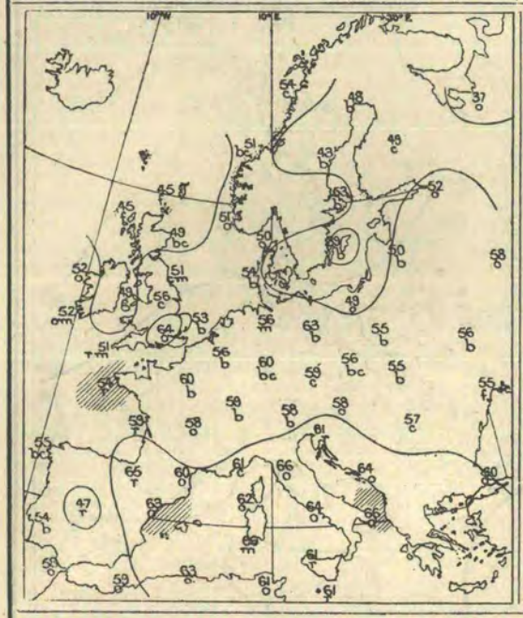
Wind light or moderate from the Southward or South-Eastward over our Islands and the western parts of France and Spain, but Easterly in Scandinavia and Denmark, and North-Easterly over the Baltic as well as in Italy and the south of France. Fresh North-Westerly breezes reported in Algeria and light variable airs over Central Europe. Subsequently veering to the South-Westward in Ireland, but backing to South-East again towards night.

Barometer highest, 30·4 ins. and upwards, in the extreme north of Russia; high, 30·0 ins. and upwards, over Morocco and the south of Spain. Lowest, 29·6 ins. and less, in a depression lying off the west of Ireland; 29·7 ins. and less in another disturbance lying between the coasts of Sardinia and Tunis; 29·9 ins. and less in a third but very small system lying over the south of Russia, near Kiev. Depression off west of Ireland subsequently moving northwards, but new disturbance approaching our south-west coasts from the south-westward.

II.—SUMMARY OF WEATHER OVER EUROPE.

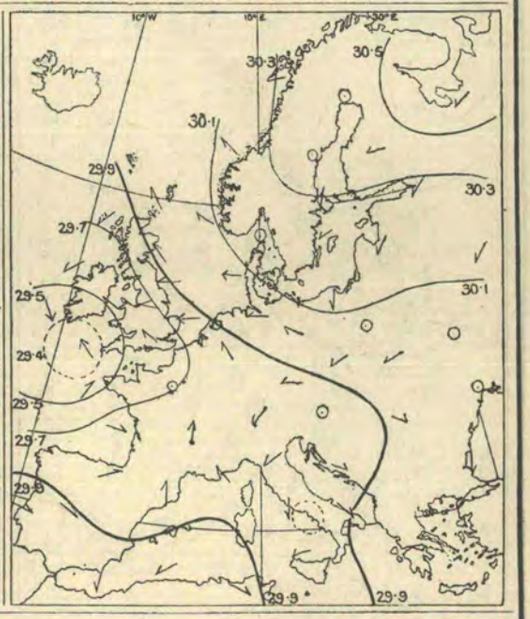
Thursday, 9th May.

Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**

6 p.m.



Weather fine over Northern and Central Europe, as well as over the eastern parts of Great Britain. Dull elsewhere, with rain in the west and south-west of our Islands, the west of France, Central Spain, and Southern Italy. Fog or mist reported at several of the Scotch and Irish stations. Rain extending later to nearly all parts of England, and thunderstorms occurring over our midland and south-eastern counties. Solar and lunar halos seen in London.

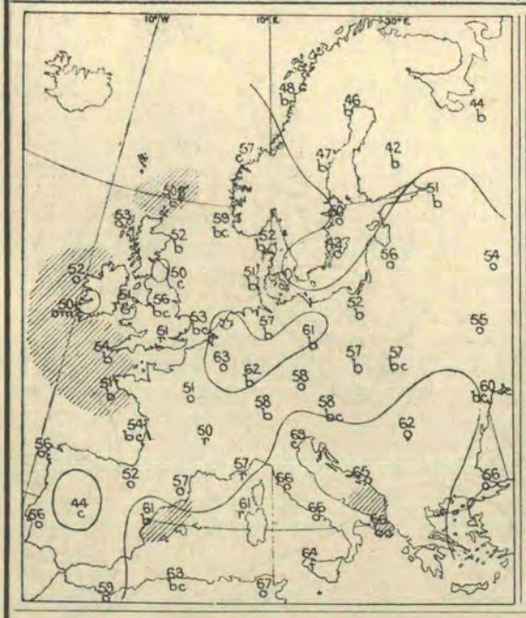
Temperature highest, 65° or a little above, in Italy; 60° and upwards at some of the English and German stations. Lowest, 40° or less, at some of the Baltic stations and also in the extreme north of Russia; 50° and less over some of the more northern parts of our Islands and Sweden, as well as over Central Spain. Subsequently rising to a little above 70° over the inland parts of England, and to a little above 75° in some parts of Italy, Belgium, and Germany.

Wind light from between East and North over Sweden, the Baltic, and Northern Russia, as well as in Italy; moderate from East or South-East over Denmark, the North Sea, and the greater part of our Islands and France. Moderate from West or South-West over the Iberian Peninsula; light from South-East in Algeria; variable over Central Europe. Subsequently increasing to a moderate gale from South-East in the south-west of England, and from South-West in the north-west of France.

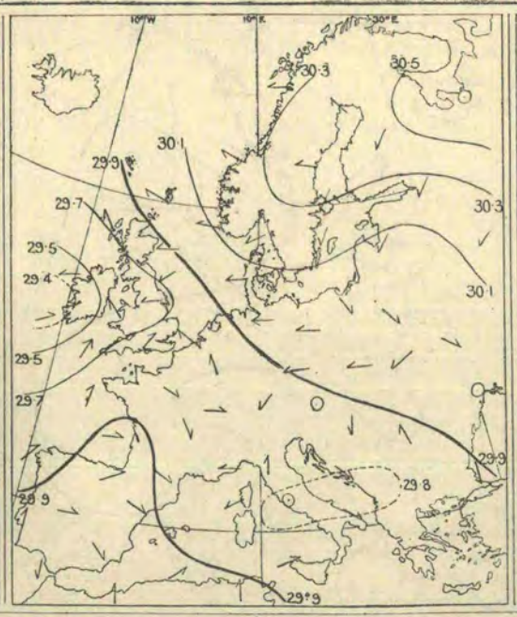
Barometer highest, 30·5 ins. and upwards, in the extreme north of Russia; high, 30·0 ins. and upwards, over the Black Sea, and also to the southward of the Iberian Peninsula. Lowest, 29·5 ins. and less, in a well-defined depression lying near the mouth of the English Channel; low, 29·7 ins. and less, in another disturbance lying near Malta; 29·9 ins. and less in a shallow system lying over Western Austria. Two first named depressions subsequently moving slowly northwards, but third system entirely dispersing.

Friday, 10th May.

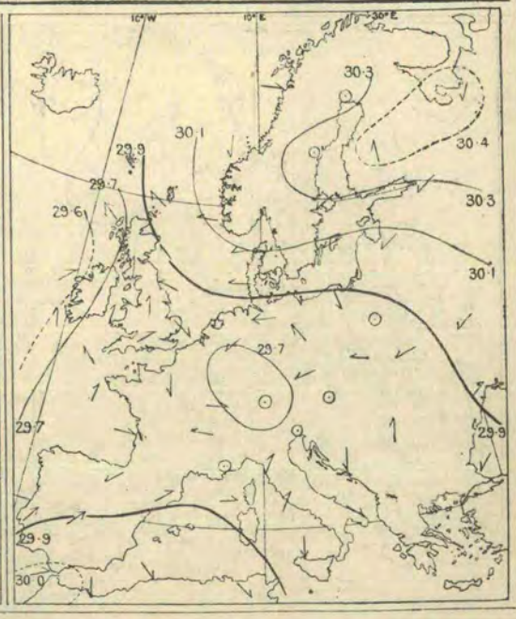
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather fine over the greater part of Northern, Eastern, and Central Europe, as well as at some of the Algerian stations. Cloudy or overcast elsewhere, with rain in many parts of Ireland and England, as well as in the extreme south of France. Thunderstorms occurring later at several of the German stations as well as at Lyons and Vienna, and heavy rain falling in many parts of Western and Central Europe, the largest amounts being 2·4 ins. at Clermont, 1·5 ins. at York and Brussels, and 1·3 ins. at Charleville.

Temperature highest, 65° or a little above, at some of the Mediterranean stations; 60° or a little above over Holland, Belgium, and North Germany. Lowest, 45° or less, over Northern Russia and also at some of the Baltic stations; lowest reading of all being 42° at Kuopio and Wisby. Daily maxima over England more than 10° lower than those of previous day, but thermometer exceeding 70° in many parts of Central Europe.

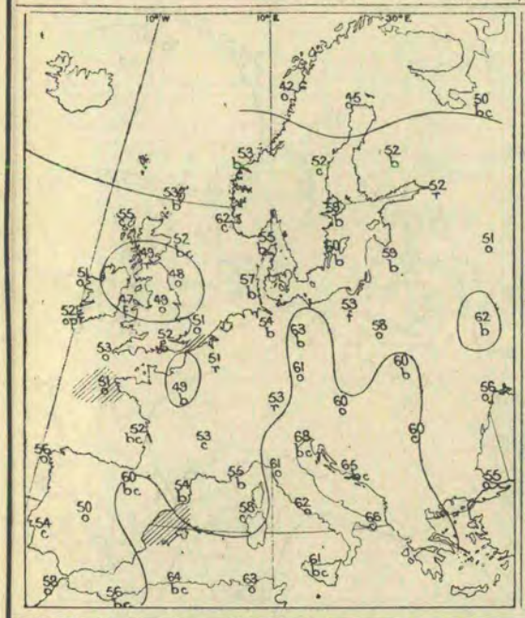
Wind light or moderate from the North-Eastward over Northern Russia and the Baltic, and Easterly over the North Sea, Denmark, Germany, and the northern and eastern parts of the United Kingdom. Moderate to fresh from the South-Westward over the south of our Islands and the western parts of France and Spain; calm or light and variable over Italy and the southern parts of France and Austria. Subsequently veering to South-East or South on our northern coasts.

Barometer highest, 30·5 ins. and upwards, over Northern Russia; high, 30·0 ins. and upwards, over Algeria and the southern half of Spain. Lowest, 29·4 ins. and less, in a depression which had travelled from the mouth of the English Channel to the west of Ireland. Long trough of relatively low readings (29·8 ins. and less) extending south-eastwards from England to the north of Italy, and separate area with similar readings lying over the central parts of Italy and the Adriatic. Depression to westward of Ireland subsequently moving away northwards.

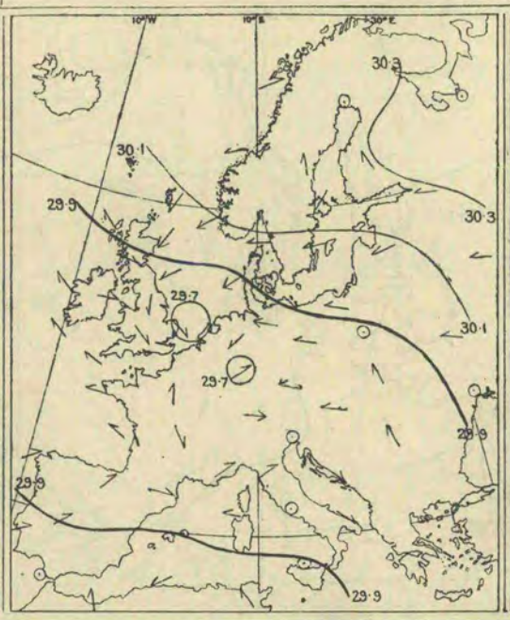
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 11th May.

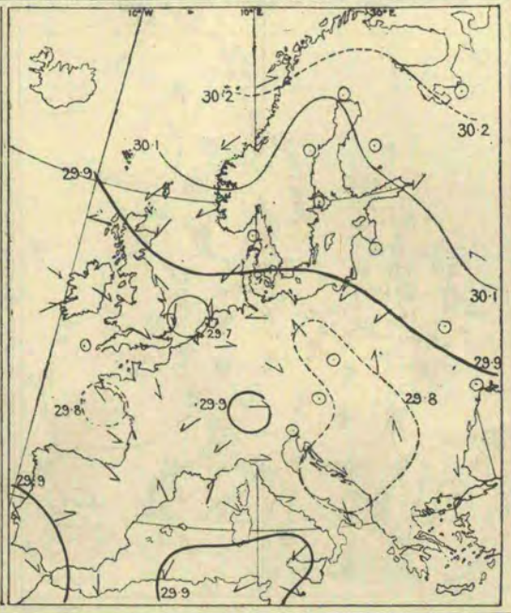
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather in a changeable condition generally: fine and bright in the morning over the greater part of Sweden, Denmark, and North Germany, as well as in the south-west and south of France, and over Algeria, cloudy or overcast in many other places (especially over the British Islands). Heavy local falls of rain in many places during the succeeding 24 hours, notably at Ardrossan, Cambridge, and in several parts of Germany; thunderstorms locally in same regions.

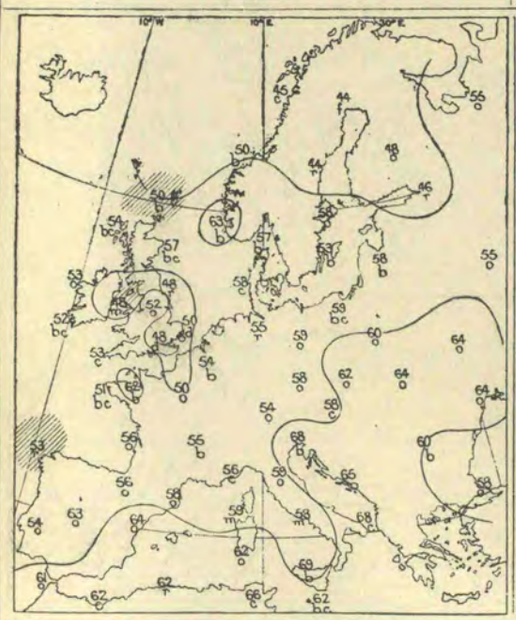
Temperature changing irregularly; falling decidedly over the Netherlands and Western Germany, and in a less degree at several of the English stations. Morning readings were below 50° over Lapland, the north-east and north of England, and the north of Ireland, as well as at Paris; above 60° in Italy, Hungary, Southern Russia, some parts of Spain, and in various localities over Germany, as well as at Skudesnaes. Daily maxima exceeding 70° in many places later, but not reaching 60° at the majority of the British stations.

Wind mainly Easterly over the northern and eastern countries of Europe, extremely variable elsewhere; Westerly over South Germany, South-Easterly to Easterly in the west of our Islands and over the Bay of Biscay. Easterly in Denmark, Northerly to North-Westerly over England, South-Westerly in the Netherlands. No important change recorded later.

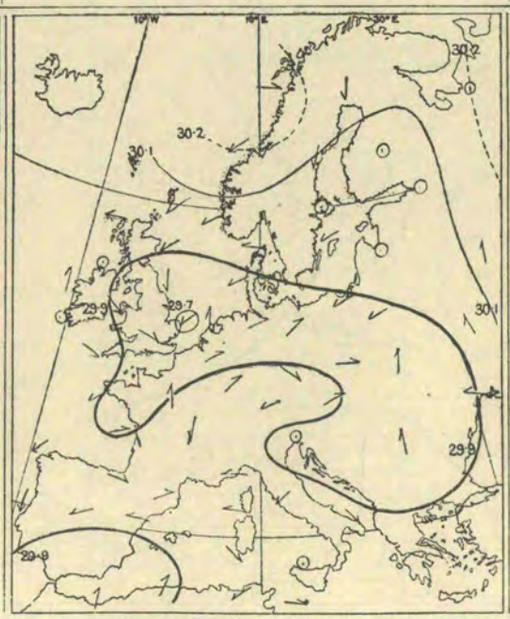
Barometer highest, 30·2 ins. to 30·4 ins., over the northern parts of Russia and Scandinavia, and as high as 30·0 ins. in the extreme south of Spain and over Western Algeria, lower elsewhere. A zone of low readings (29·8 ins. and less) stretching from the east of England across the Netherlands, Germany, and Austria, to Dalmatia, Greece, and the Balkan Peninsula, with well-marked minima near Wiesbaden and Yarmouth. Barometer rising on our western coasts, the recent depressions in those regions having filled up.

Sunday, 12th May.

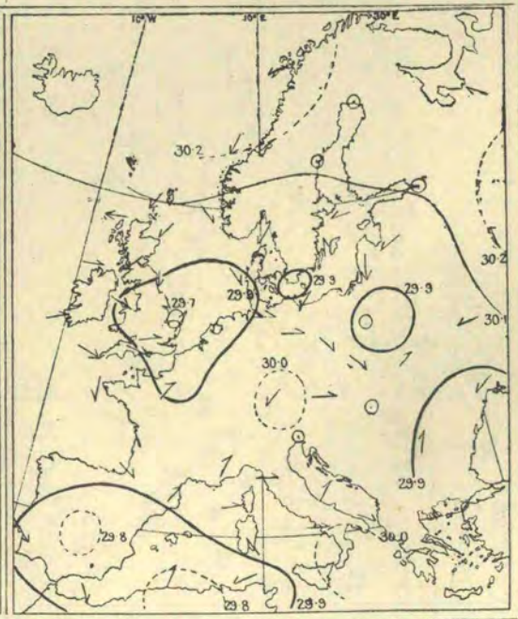
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine at many of the Baltic stations, as well as in Norway, the north and east of Scotland, and in several parts of Austria; cloudy and changeable elsewhere, unsettled with rain in several places. Heavy rain later at many of the British and German stations, with thunder locally.

Temperature still changing irregularly, and ranging from less than 50° over Finland, Sweden, and several parts of our Islands, to 60° and more over South-Eastern Europe, to 69° at Trieste, and 68° at Brindisi. Daily maxima less than 60° almost all over the British Islands, but rising to 70° and more over Germany, some parts of France, and South-Eastern Europe.

Wind still North-Easterly to Easterly over Northern Europe, Scotland, and the north-west of England, North-Westerly over our western, midland, and southern counties, South-Westerly over the Netherlands and the north-east of France; very variable and light over Central and Eastern Europe, but Northerly in Spain and Portugal. No important change later.

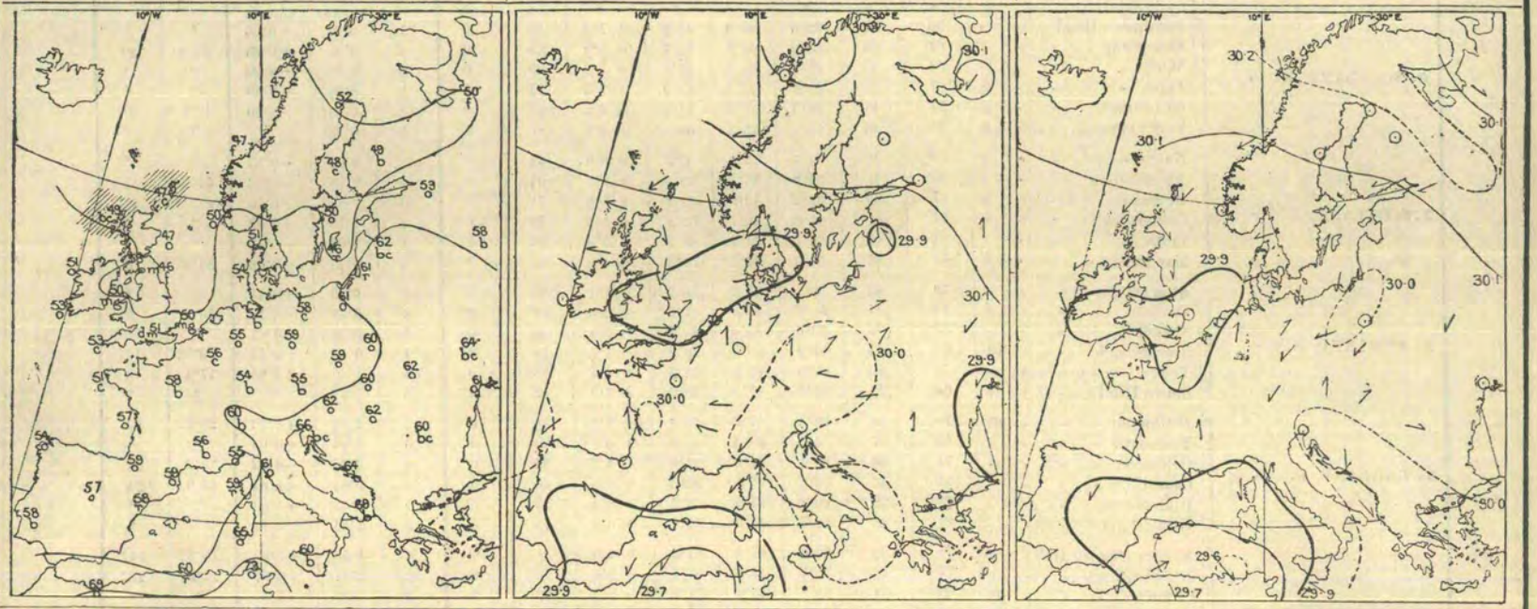
Barometer highest, 30·0 ins. over Scotland, Northern Europe, and the north-eastern parts of Russia, and exceeding 30·0 ins. in the south-west of Ireland and north-west of Spain also. Lowest, 29·9 ins. and less, over England, the north of France, the Netherlands, North Germany, and Austria-Hungary, with a well marked depression over our eastern coast. Gradients slight. A new depression appearing over Algeria later and growing deeper.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 13th May.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather less unsettled over the British Islands than during past day or two, but still dull; very variable elsewhere, but dull and rainy over a great part of the Mediterranean and on some of the shores of the Baltic. A good deal of rain over Algeria, the south of France, and at Turin later as well as over Hamburg and some parts of the Baltic.

Temperature changing little and very irregularly; again below 50° in many parts of Finland, Scandinavia, and the British Islands, and above 60° over South-Eastern Europe, Italy, and Algeria—above 70° at La Calle. Rising to between 90° and 100° in several parts of Algeria later, to 86° and more in some parts of Austria and to between 70° and 75° over Italy, but exceeding 60° at very few of the British and Norwegian stations.

Wind still North-Easterly to Easterly over the northern half of Europe, very variable and light in almost all other places. A well developed cyclonic circulation of moderate winds prevailing over the Mediterranean and Northern Africa; the latter veering southwards and increasing later. No important change over the British Islands or Continent.

Barometer still highest (30·0 ins. to 30·3 ins.) over Scandinavia, Northern and Central Russia, very uniform over the remainder of Europe, but lowest (29·6 ins. and less) in a depression advancing from Central Algeria to the Mediterranean. The latter advancing towards Sardinia later, and becoming rather complex; little change of importance elsewhere.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛ = a heavy gale; ➔ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

Throughout the earlier part of this week pressure was highest over Northern Europe, and shallow disturbances passed from the Bay of Biscay, over the south-western parts of our Islands, to the Atlantic, causing rainy weather over our western districts, while bright warm conditions were observed over England, France, and Germany. A secondary system, however, which passed in a northerly direction over England on the 9th—10th, caused thunderstorms in several parts of this country. A marked change then took place; the depressions in the west disappeared, but a new series was developed over Germany and the North Sea, which spread quickly to our Islands, causing cold northerly winds, gloomy weather, and much rain over England, while in Ireland the sky cleared.

CORRECTED TEMPERATURE values for Waterford for week ending May 6th, 1889.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.)								Rainfall.			Bright Sunshine.	
		Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
May 6, 1889	Waterford	58	45	54·7	46·7	50·5	− 0·1	60	0	—	—	—	—	—

III.—DATA from which the SUMMARY on page 109 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	56	42	52·0	43·0	47·2	+ 1·5	36	0	1	0·04	−0·36	*	*
	Stornoway	67	42	58·0	46·1	51·7	+ 5·0	68	0	4	0·83	+0·23	33·0	29
	Wick	58	44	53·9	44·3	48·8	+ 2·3	48	0	2	0·10	−0·26	*	*
	Lairg ℳ𝒮	67	41	62·7	44·4	53·0	+ 7·5	77	0	1	0·03	−0·49	*	*
	Glencarron ℳ𝒮	74	43	64·2	47·4	55·3	+ 9·4	93	0	2	0·25†	−0·80	42·1	37
	Fort Augustus ℳ𝒮	71	45	63·4	46·5	54·4	+ 6·5	87	0	5	0·22†	?	*	*
1. SCOTLAND, E.	Nairn	73	42	62·7	45·7	53·7	+ 6·0	82	0	2	0·05	−0·33	*	*
	Aberdeen	58	41	54·9	44·3	49·3	+ 2·1	51	0	2	0·06	−0·36	51·2	46
	Braemar 𝒮	67	36	62·6	42·9	52·2	+ 7·8	71	0	0	—	−0·50	46·7‡	42‡
	Ochtertyre 𝒮	71	41	62·0	44·7	52·8	+ 5·5	76	0	4	1·16	+0·62	*	*
	Leith	61	43	56·1	44·3	49·9	+ 0·8	55	0	4	0·27	−0·11	*	*
	Marchmont 𝒮	64	43	58·6	44·6	51·2	+ 4·5	64	0	3	0·45	−0·06	18·0	16
2. ENGLAND, N.E.	Alnwick Castle	59	43	53·3	45·0	48·9	+ 1·1	48	0	3	0·90	+0·41	*	*
	Durham	70	44	58·8	45·2	51·6	+ 3·3	67	0	3	0·38	−0·10	10·3	9
	Shields	59	42	52·0	44·6	48·1	− 0·4	43	0	4	0·35	−0·05	*	*
	Scarborough ℳ	63	44	54·9	46·3	50·3	+ 1·3	58	0	4	0·30	−0·11	16·9‡	16‡
	York	73	45	62·9	47·1	54·5	+ 4·1	88	0	4	1·60	+1·20	17·4	16
	Spurn Head	64	45	55·0	47·3	50·9	+ 1·4	62	0	3	0·61	?	*	*
3. ENGLAND, E.	Hillington ℳ	74	42	61·4	47·3	53·9	+ 3·5	83	0	5	1·34	+0·93	23·6	22
	Yarmouth	60	47	55·4	48·4	51·7	+ 0·1	68	0	5	1·06	+0·65	*	*
	Geldeston	71	44	61·1	47·6	54·0	+ 3·3	84	0	4	0·62	+0·23	30·2	28
	Cambridge	74	45	63·3	47·3	54·8	+ 2·6	90	0	6	2·04	+1·64	25·0	24
	Rothamsted	70	42	60·1	46·5	52·9	+ 2·4	76	0	4	1·53	+1·06	*	*
	Ingatestone	68	45	59·1	47·9	53·2	+ 0·6	78	0	5	1·53	+1·14	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	74	42	62·6	47·3	54·5	+ 4·0	88	0	6	1·50	+1·08	15·6‡	14‡
	Loughborough	75	44	61·1	47·9	54·1	+ 3·0	85	0	6	1·41	+0·97	13·6‡	13‡
	Cheadle ℳ	68	41	59·2	45·4	51·9	+ 2·4	69	0	6	1·06	+0·54	*	*
	Churchstoke ℳ	66	41	59·0	45·2	51·7	+ 1·3	68	0	5	2·07	+1·65	9·7	9
	Hereford ℳ	71	46	60·5	47·6	53·7	+ 2·3	82	0	6	1·13	+0·71	*	*
	Cirencester	68	?43	58·4	?45·7	?51·7	? + 0·8	?68	0	4	0·56	+0·09	11·9	11
	Oxford	70	46	60·0	47·9	53·6	+ 2·2	81	0	6	0·79	+0·38	8·8	8
5. ENGLAND, S.	London	74	47	61·4	49·3	55·0	+ 2·7	91	0	4	0·59	+0·19	12·9‡	12‡
	Strathfield Turgiss ℳ	71	43	60·6	47·2	53·5	+ 3·1	81	0	7	0·71	+0·35	*	*
	Dungeness	65	48	59·0	48·9	53·7	+ 1·5	82	0	1	0·37	−0·03	*	*
	Hastings (St. Leonard's)	60	48	59·1	48·7	53·6	+ 1·9	81	0	2	0·31	−0·11	15·2	14
	Southampton	66	44	61·7	48·3	54·6	+ 2·9	88	0	4	0·35	−0·09	10·6	10
	Hurst Castle	65	46	60·9	49·1	54·7	+ 2·5	89	0	3	0·06	−0·33	*	*
	Stowell ℳ	61	41	58·7	45·7	51·8	+ 0·6	69	0	4	0·49	?	18·6‡	18‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	69	42	62·3	48·1	54·8	+ 6·2	90	0	5	1·50†	+0·62	*	*
	Glasgow	64	45	59·3	46·8	52·7	+ 4·7	75	0	5	1·18	+0·66	21·8	20
	Ardrossan	66	43	59·6	46·7	52·8	+ 4·3	76	0	6	1·65	+1·15	*	*
	Glenlee 𝒮	72	44	60·4	46·7	53·1	+ 5·6	78	0	7	1·81†	+1·19	*	*
	Douglas (Isle of Man)	62	45	57·0	47·6	52·0	+ 3·3	70	0	5	0·92	+0·50	22·6	21
7. ENGLAND, N.W.	Newton Reigny (Penrith)	73	42	60·2	45·0	52·1	+ 3·7	71	0	6	1·35	+0·95	21·8	20
	Barrow-in-Furness	69	47	60·0	49·7	54·5	+ 4·2	88	0	5	1·51	+1·10	*	*
	Stonyhurst	68	41	59·0	46·8	52·5	+ 2·6	74	0	6	1·25	+0·67	8·6	8
	Blackpool ℳ	71	47	60·7	48·0	54·0	+ 2·9	84	0	6	1·64	+1·23	16·3	15
	Manchester	71	46	59·9	47·7	53·4	+ 2·8	80	0	6	1·70	+1·20	*	*
	Liverpool Obsy (Bidston)	71	47	59·9	48·1	53·7	+ 2·4	82	0	6	1·39	+1·01	*	*
	Llandudno ℳ	65	44	57·4	46·9	51·8	+ 0·3	69	0	5	1·00	+0·60	10·0	9
	Holyhead	60	45	54·6	46·9	50·6	− 1·0	60	0	6	0·58	−0·03	*	*
8. ENGLAND, S.W.	Llandovery	68	34	59·6	44·7	51·7	+ 0·1	68	0	6	0·47	−0·14	*	*
	Pembroke	57	40	53·7	46·1	49·7	− 1·3	54	0	2	0·33	−0·11	35·5	33
	Arlington (N. Devon)	60	35	57·3	43·6	50·0	− 0·5	56	0	3	0·16	−0·51	*	*
	Cullompton ℳ	65	34	61·4	44·8	52·6	+ 0·6	74	0	3	0·55	+0·06	27·1	26
	Falmouth	60	46	56·9	47·6	52·0	+ 0·3	70	0	4	0·79	+0·16	40·3	38
	Plymouth	68	41	62·1	47·2	54·2	+ 1·5	85	0	3	0·47	−0·01	44·5	42
	Prawle Point	61	41	56·0	46·1	50·8	− 0·4	62	0	3	0·40	?	*	*
9. IRELAND, N.	Malin Head	60	46	55·0	47·4	51·0	+ 2·1	63	0	2	0·30	?	*	*
	Londonderry	69	45	59·4	47·4	53·0	+ 3·3	77	0	3	0·65	+0·12	*	*
	Mullaghmore	61	43	58·0	46·6	52·0	+ 1·2	70	0	5	0·73	+0·18	*	*
	Belmullet	58	45	55·6	46·7	50·9	+ 0·7	62	0	6	0·77	?	*	*
	Markree Castle	60	39	58·1	43·7	50·5	0·0	60	0	5	0·81	+0·33	31·4	29
	Brookeborough	62	36	56·5	44·3	50·0	− 0·4	56	0	3	0·91	?	*	*
	Armagh	61	40	56·7	45·8	50·9	+ 0·6	62	0	5	1·35	+0·90	12·3	11
	Donaghadee	60	47	55·4	47·7	51·3	+ 1·4	65	0	6	0·93	+0·44	*	*
	Edgeworthstown	61	37	58·1	44·1	50·7	− 0·2	61	0	5	0·68	+0·17	*	*
10. IRELAND, S.	Dublin	63	41	57·4	47·3	52·1	+ 1·3	71	0	4	0·98	+0·55	15·2	14
	Parsonstown	61	41	58·9	45·1	51·6	+ 0·7	67	0	6	0·40	−0·10	23·5	22
	Kilkenny	62	41	58·1	45·1	51·2	0·0	64	0	5	0·59	+0·17	*	*
	Waterford	61	40	57·7	45·4	51·2	− 0·6	64	0	3	0·57	+0·04	*	*
	Roche's Point	60	44	55·7	46·9	51·0	− 0·8	63	0	3	1·00	+0·30	*	*
	Valencia	59	40	55·4	45·9	50·4	− 0·8	59	0	5	1·95	+1·30	25·4	24
	Killarney	62	37	56·0	42·2	48·7	− 2·6	47	0	5	1·19	?	*	*
	Foynes	59	41	56·4	46·0	50·9	+ 0·2	62	0	4	0·93	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	59	48	55·6	48·3	51·7	− 0·5	68	0	3	0·25	−0·14	*	*
	Jersey	62	42	59·4	47·7	53·2	+ 0·5	78	0	2	0·03	−0·36	55·6	53

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked 𝒮 with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 20.] *Third Series.* WEEK ENDING MONDAY, 20TH MAY, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861-80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866-85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881-85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 120.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	71	38	58·8	44·2	51·0	4 above.	63	+25	0	− 8	334	+56	514	+ 9
	1. SCOTLAND, EAST	73	37	59·1	43·8	50·9	3 above.	62	+ 8	0	− 6	402	+11	548	+ 6
	2. ENGLAND, N.E.	75	40	58·0	41·5	50·9	1 above.	62	+ 7	0	− 5	376	−23	483	+ 6
	3. ENGLAND, EAST	69	42	60·1	43·5	52·9	1 above.	76	+ 8	0	− 4	473	−55	619	+113
	4. MIDLAND COUNTIES	73	40	63·6	47·1	54·9	3 above.	90	+20	0	− 5	514	−46	534	+ 61
	5. ENGLAND, SOUTH	71	44	62·4	48·4	55·0	3 above.	91	+17	0	− 2	545	−52	448	+ 75
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	71	37	61·8	46·2	53·5	4 above.	81	+24	0	− 3	466	+27	375	− 23
	7. ENGLAND, N.W.	72	37	62·1	46·8	54·0	2 above.	84	+22	0	− 2	448	− 7	382	− 1
	8. ENGLAND, S.W.	78	36	61·2	43·2	53·2	1 above	78	+ 9	0	− 1	545	−65	321	+ 83
	9. IRELAND NORTH	69	37	59·8	46·6	52·8	2 above.	76	+17	0	− 2	519	+ 3	297	− 52
	10. IRELAND, SOUTH	70	39	60·7	47·8	53·9	2 above.	83	+16	0	− 2	639	−15	225	− 14
	— CHANNEL ISLANDS	65	45	59·1	49·1	53·8	1 above.	83	+ 9	0	0	673	−12	77	− 16

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 120.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	3	3	3 less.	104	+15	17·2	+0·7	18	16	346	−111	22	− 7
	1. SCOTLAND, EAST	2	4	0 (average).	80	+ 9	8·9	−2·3	33	29	389	−118	24	− 8
	2. ENGLAND, N.E.	1	1	4 less.	72	+ 2	8·1	−1·0	36	32	367	− 74	23	− 5
	3. ENGLAND, EAST	3	3	1 less.	78	+ 6	7·7	−0·7	19	18	378	−169	24	−10
	4. MIDLAND COUNTIES	1	1	3 less.	71	+ 3	11·1	+1·2	23	21	346	−140	22	− 8
	5. ENGLAND, SOUTH	3	3	1 less.	76	+10	8·4	−1·5	31	29	366	−144	23	− 9
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	3	5	1 more.	87	+ 8	16·4	−1·0	35	32	404	− 65	25	− 4
	7. ENGLAND, N.W.	2	3	1 less.	80	+ 8	11·0	−1·6	45	41	387	− 82	24	− 5
	8. ENGLAND, S.W.	3	9	4 more.	74	− 1	13·5	−2·3	40	37	483	− 81	30	− 5
	9. IRELAND, NORTH	3	3	2 less.	96	+10	14·1	+1·6	25	22	343	−153	21	−10
	10. IRELAND, SOUTH	2	3	3 less.	85	+ 3	13·9	−1·3	30	27	444	−114	28	− 7
	— CHANNEL ISLANDS	2	5	1 more.	83	+ 1	9·5	−2·7	33	32	567	−110	35	− 7

General Remarks.

Weather has been in a cloudy condition very generally, with a good deal of fog or haze in different localities. Thunderstorms were experienced in various parts of Scotland during the earlier days of the period, and, later on, at some of the English and Irish stations also.

Temperature has been above the mean in all districts, the excess having ranged from 3° to 4° in Scotland, and from 1° to 3° in England. The highest of the maxima, which were recorded in most places either on the 16th or 20th, varied from 65° in the "Channel Islands" and 69° in "England, E." and "Ireland, N." to 75° in "England, N.E." and 78° in "England, S.W." The lowest of the minima, which were registered on somewhat irregular dates, ranged from 36° in "England, S.W." to 44° in "England, S." and 45° in the "Channel Islands". During the greater part of the week the minima were again very uniform and several degrees above the mean for the time of year.

Rainfall has been a little more than the mean in "Scotland, W.", "England, S.W.", and the "Channel Islands", and equal to it in "Scotland, E.", but in all other districts a deficit is shown. Over north-eastern and central England the fall has been very slight.

Bright sunshine has been less prevalent than it was last week in the north and east of Scotland, the east of England, and the "Channel Islands", but elsewhere there has been a slight increase. The percentage of the possible duration ranged from 16 to 32 in Scotland, from 22 to 27 in Ireland, and from 18 to 41 in England.

Barometer and Wind.—During this period the height of the barometer has been very uniform over our Islands and the changes slight and gradual. No depressions of importance have approached our immediate neighbourhood, but a few very shallow disturbances have been observed in different districts from time to time and some larger depressions have skirted our extreme western coasts. Under these conditions light or moderate Southerly breezes have occasionally prevailed in the west and north-west, while in the other parts of the Kingdom very light variable airs have been general.

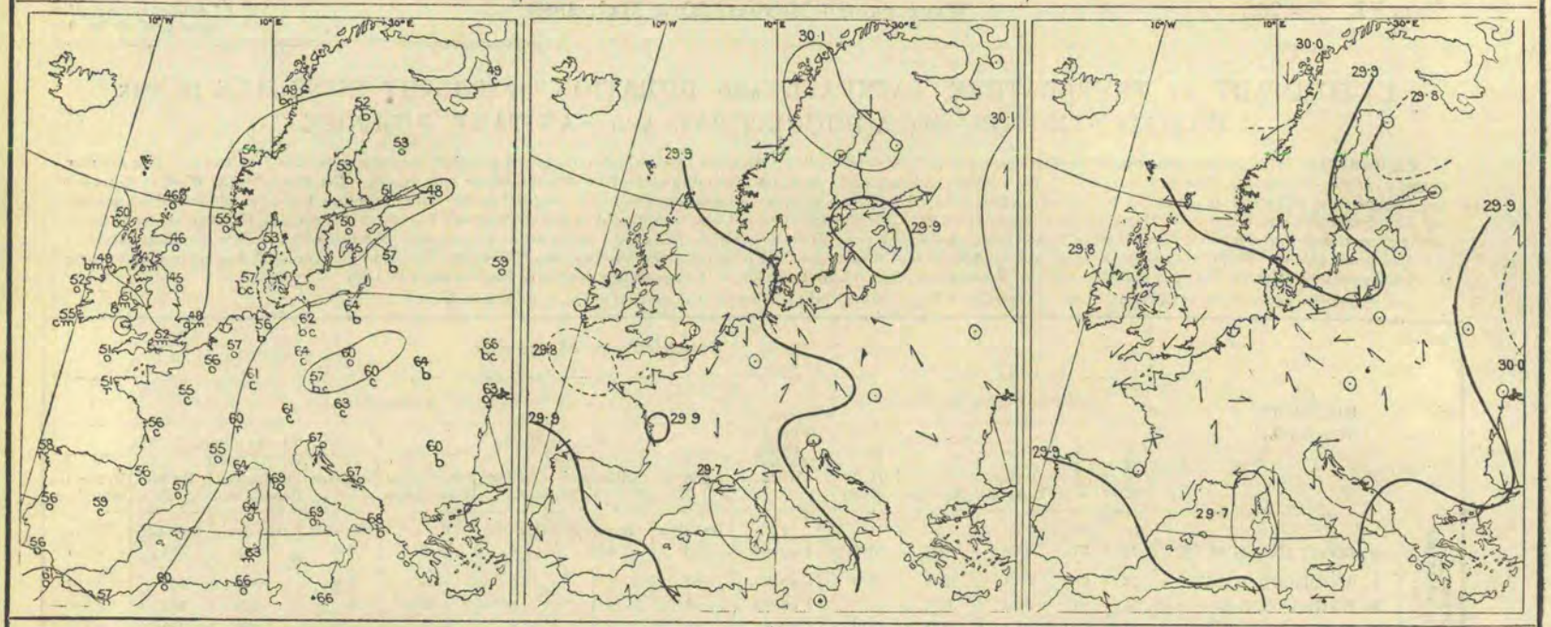
A 58789. 350.—5/89. Wt. 36. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 14th May.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather, at the time of the morning observation, very variable and changeable—clear in many localities, cloudy in others, and rainy in some regions, more particularly over France and Germany. Showers very general over France and the north-west of our Islands later; thunderstorms over Germany and the low countries.

Temperature fallen a little over Northern Europe, but changed irregularly as a whole at the western and central stations, risen in the south. Ranging from less than 50° at many of our own stations and at Bodö and Archangel, to 60° and more over Germany, Austria, the south of Russia, and on the shores of the Mediterranean. Rising to 86° at Palermo, and to 80° or more at several stations in south-eastern and southern Europe later, and to between 60° and 65° in some parts of the United Kingdom, but continuing below 50° at Bodö all day.

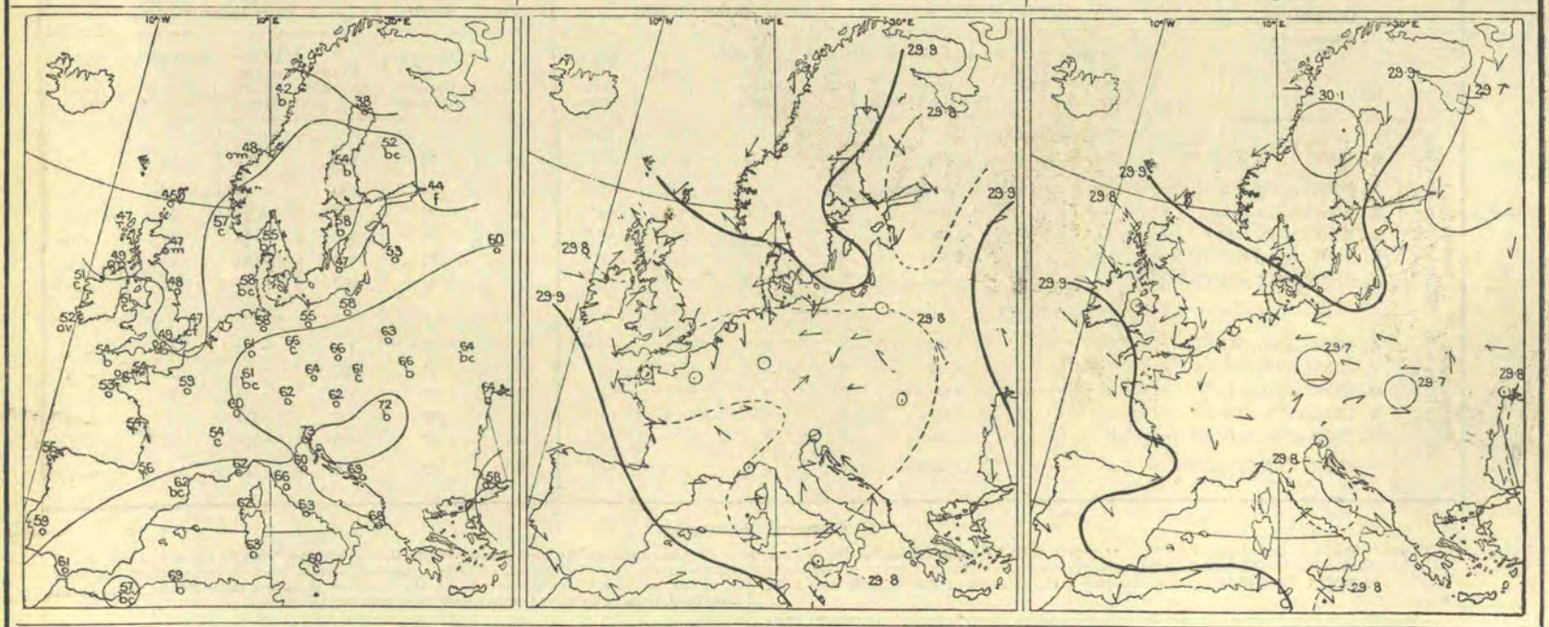
Wind light as a rule and extremely variable, except over the Mediterranean, where there was a complete cyclonic circulation of wind, moderate to a gale in force; gale subsiding later. No important change later, either over the British Islands or their neighbourhood.

Barometer inclined to fall generally. Readings highest (30·1 ins. and more) over the northern parts of Scandinavia, lowest, 29·7 ins. and less, in a depression over the Mediterranean. Readings unusually uniform over Europe and the British Islands, and gradients very slight except over the south of France, and Gulf of Genoa. Subsequent changes very slight.

Wednesday, 15th May.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine over south-eastern Europe and in the west and north of the British Islands. dull and changeable in most other regions, with rain or fog in places. Fall slight and local in the British Islands, heavy at some stations over the south of France, the Netherlands, Germany, and Southern Russia.

Temperature falling over Northern Europe, changing little and irregularly elsewhere. Ranging from little above 40° over Lapland, and from below 50° over the Gulf of Finland and many parts of the British Islands, to 60° and more in many parts of Germany and southern Europe, and to 70° and more at some of the Austrian stations. Highest morning readings 73° at Trieste and 72° at Buda Pesth. Daily maxima below 60° in the United Kingdom, but rising to 80° and more in some parts of Algeria and Austria, and to upwards of 70° over the greater part of Central Europe.

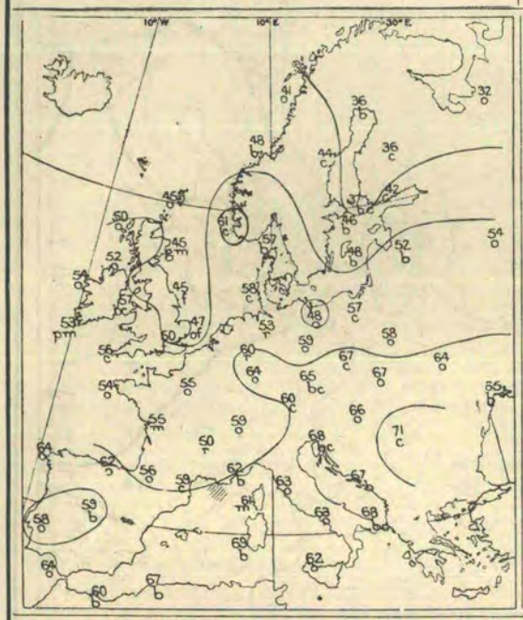
Wind still very light and variable; mainly Northerly over Scandinavia, the North Sea, and the east and south of England; chiefly Westerly over the southern parts of the Mediterranean. No decided change later.

Barometer highest, (29·9 ins. to 30·0 ins. and more) over Scandinavia, South-Eastern Russia, the Spanish Peninsula, and Algeria; relatively low over the Mediterranean, Central Europe, and Finland, but with slight and irregular gradients. Mercury rising slightly in our Islands later; the depression over Finland moving north-eastwards, while that over Central Europe grew rather deeper and more complex. New disturbance appearing over Italy.

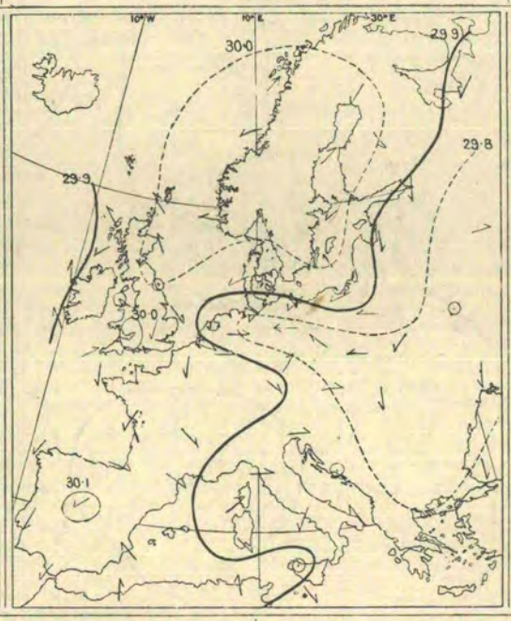
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 16th May.

Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.

Weather drier than of late over the British Islands, but very foggy at the English and Channel stations, fine in the west and over Scandinavia. Very changeable and cloudy over the Continent and Southern Europe, with rain in some places. Rainfall heavy in some parts of Germany, Switzerland, and the north of Italy later, with thunderstorms locally; showers occurring over the western parts of our Islands.

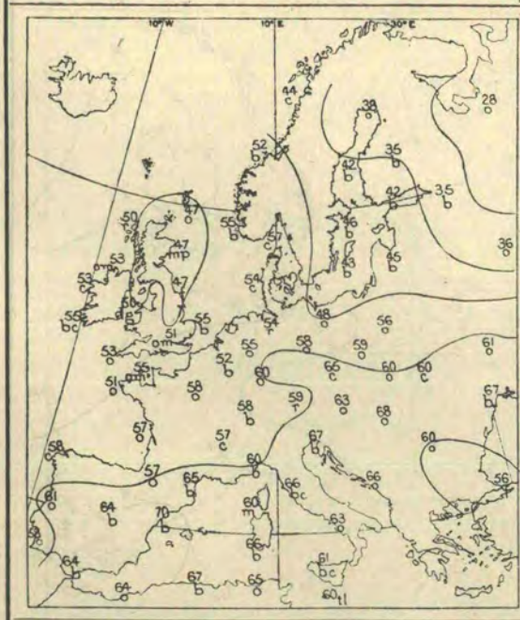
Temperature still decreasing over Northern Europe, increasing in the west of the British Isles, but not changing decidedly elsewhere. The morning readings were as low as 32° at Archangel, 36° or 37° over Finland, and below 50° over the north-eastern parts of Great Britain; over Algeria, Southern and Central Europe they exceeded 60°, and at Buda Pesth the thermometer stood at 71°. The daily maxima were again above 80° in several parts of Algeria, South-Eastern and Central Europe, and reached 70° and more in several parts of England.

Wind becoming Southerly in the western and northern parts of the British Islands, but Northerly in the east, and North-Easterly over the Baltic and Spain; very variable over the Continent and Mediterranean. No general change of importance subsequently.

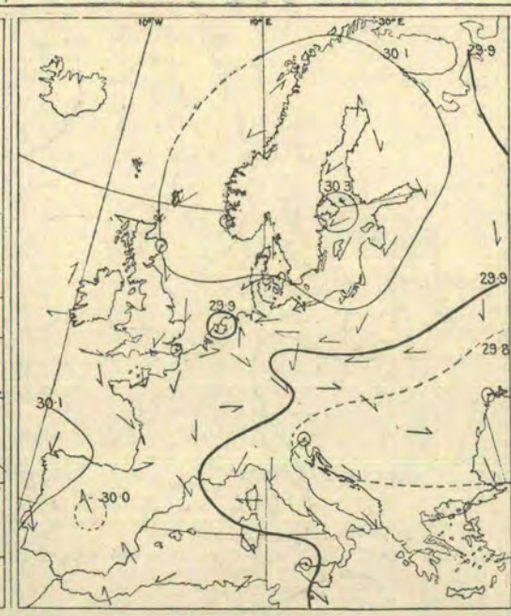
Barometer rising decidedly over Western, falling a little over Eastern and South-Eastern Europe. The high pressure in the north was increasing in intensity and spreading southwards, while the low pressure systems over Central Europe were moving south-eastwards, and apparently beginning to fill up.

Friday, 17th May.

Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.

Weather fine and bright over North-Eastern and South-Western Europe, cloudy or overcast as a whole elsewhere (with some local exceptions), hazy or foggy on many parts of our coasts, and showery in a few places. Rain falling at several of our eastern stations later, as well as in France, Austria, and at Odessa (the latter being thunder-showers); fog becoming prevalent in many places at night.

Temperature below the freezing point at Archangel, and below 40° over all the northern parts of Russia and the east of Lapland; still below 50° at many of our own north-eastern and northern stations, and not much above 50° over England and Central Ireland as a whole. No morning reading above 70° in any part of Europe, but daily maxima again exceeding 80° at several Algerian stations, Madrid, and Cap Béarn, 79° reached at Hermanstadt, 73° at Berlin; no reading above 67° in our Islands.

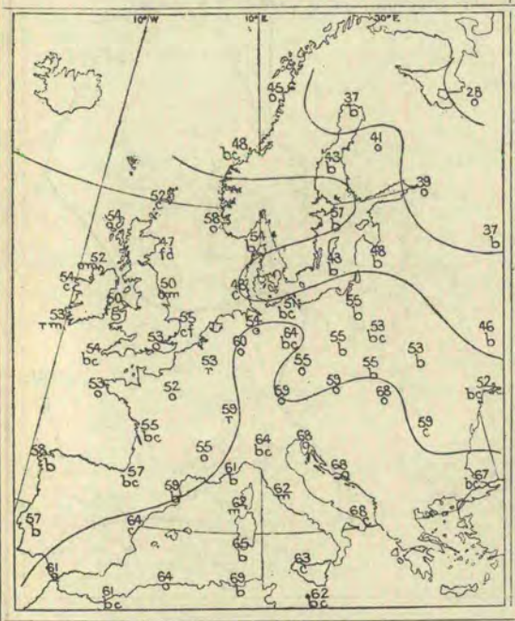
Wind still North-Easterly over the Baltic and North Germany: extremely light and variable elsewhere; becoming North-Easterly on our north-eastern coasts. North-Westerly in the West, and over the Bay of Biscay, and Westerly in the Channel towards evening.

Barometer now rising over South-Eastern Europe, very steady in the north and west; gradients slight,—for North-Easterly winds in the north, and for variable light breezes in other places. Depressions over South-Eastern and Southern Europe tending to fill up; new shallow one forming over England by the evening.

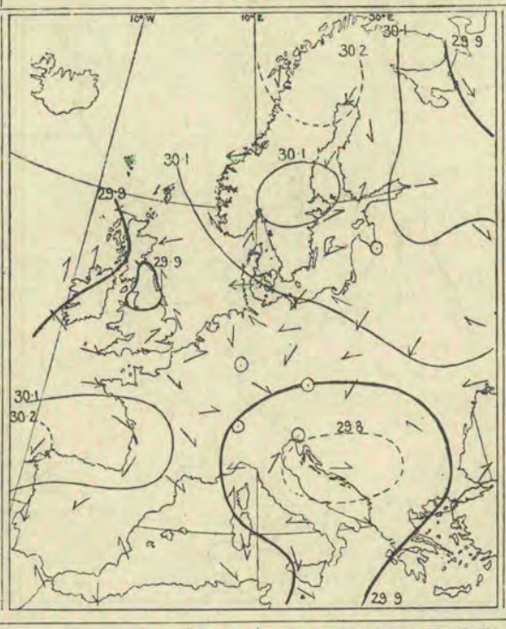
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 18th May.

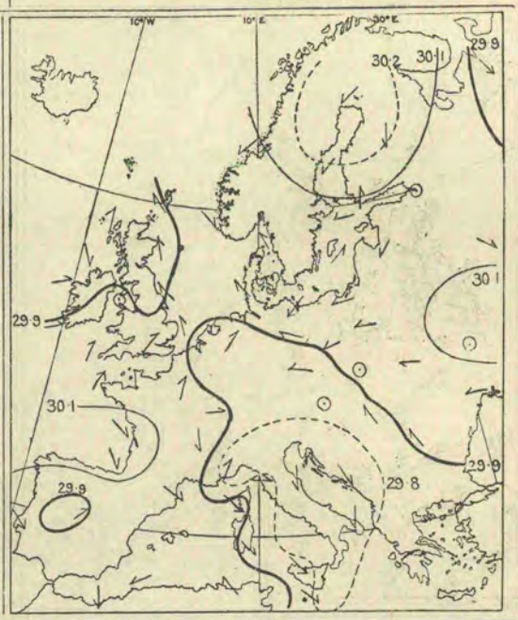
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather cloudy and foggy over the northern and central parts of the United Kingdom, and dull in Austria, Belgium, the north of Italy, Western Germany, and the east of France, with rain at Brussels and Munich; fine in nearly all other localities. Weather clearing later over the northern parts of our Islands, but heavy rain falling at night in Holland and the east of England.

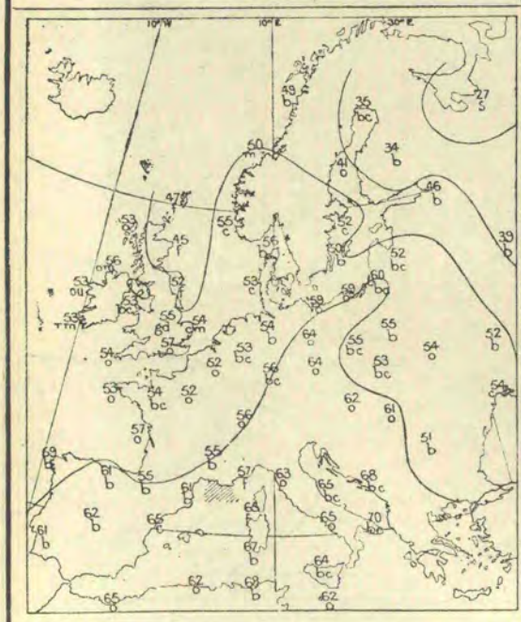
Temperature highest, 65° and upwards, over Southern Austria, the Adriatic, and the southern shores of the Mediterranean; high, 60° and upwards, at some of the German stations. Lowest, 28° Faht., at Archangel; low, 40° and less, over Lapland and nearly the whole of Central and Northern Russia. Subsequently rising a little above 65° over the central parts of England and Ireland, to a little above 70° at some of the French and German stations, and to above 75° in Italy.

Wind Easterly or North-Easterly over the greater part of Scandinavia, Denmark, the North Sea, and Central Europe; Northerly or North-Westerly over Northern and Central Russia. Light Southerly in the west of our Islands; moderate Westerly or South-Westerly on our southern coasts: North-Westerly in France and North-Easterly or Easterly in Spain. Light and variable over Italy, Algeria, and the central parts of the United Kingdom. Subsequently veering to the South-Westward at many of our western stations.

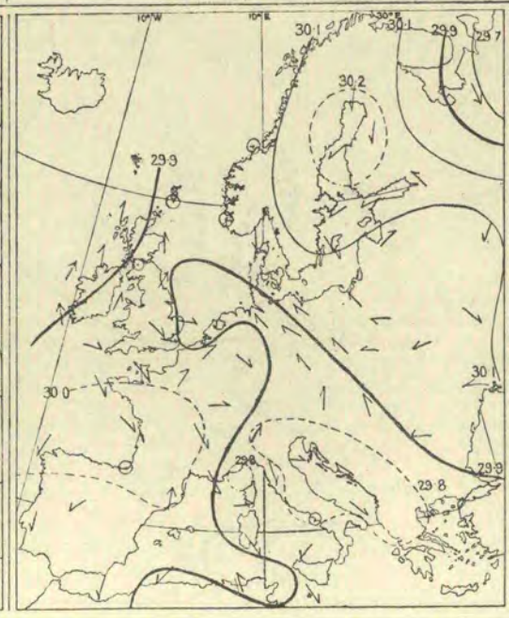
Barometer highest, 30·2 ins. and upwards, in two areas lying respectively over Western Russia and the north of Scandinavia; high, 30·1 ins. and upwards, over the Bay of Biscay, the west of France, and the north of Spain. Lowest, 29·8 ins. and less, in a shallow depression lying over the south of Austria and the northern parts of the Adriatic; low, 29·9 ins. and less, in three depressions lying respectively over the extreme north-west of our Islands, the north of England and the extreme north of Russia. Depressions in the neighbourhood of the United Kingdom subsequently moving northwards, but new disturbances forming over Holland and Germany.

Sunday, 19th May.

Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.

Weather cloudy over the greater part of the United Kingdom, and also in Central France, Algeria, and the south of Germany, with fog on many of the English and Scotch coasts, and rain over Central England as well as at Valencia; fine in nearly all other localities, but snow falling at Archangel. Rain falling later over Germany, the Netherlands, the south-east of England, and some parts of France, and heavy thunderstorms occurring in Western Algeria; accompanying rainfall amounting to as much as 1·7 inches at Nemours.

Temperature highest, 65° to 70°, over the Mediterranean and Adriatic; 60° and upwards over Spain and Central Germany. Lowest, 32° and less, in the neighbourhood of the White Sea (Archangel, 27° Faht.); 40° and less over Lapland and Northern Russia. Subsequently rising a little above 65° over Central Ireland and the north of England, a little above 75° in many parts of Central and Southern Europe, and a little above 85° in Central Algeria.

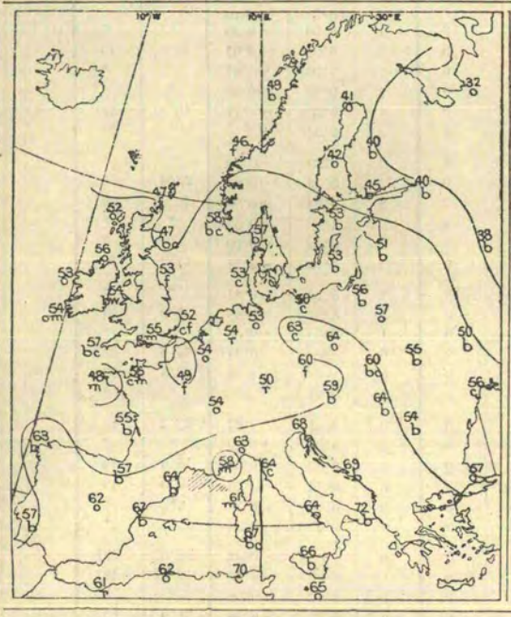
Wind Easterly (North-East to South-East) over Scandinavia, Denmark, and the greater part of Central Europe, North-Westerly over Northern Russia; light to fresh from South or South-East in the west and north of our Islands, but variable in the east and south, and North-Westerly in France; Northerly or North-Easterly in Spain and Western Algeria. Light South-Westerly or Westerly breezes setting in later on our western and southern coasts.

Barometer highest, 30·2 ins. and upwards, over Finland and the north of Sweden; high, 30·0 ins. and upwards, over the Bay of Biscay, the north of Spain, and the greater part of France. Lowest, 29·8 ins. and less, in two areas lying respectively off the north-west of our Islands and the south of France, and also in a large and irregularly formed system extending from Turkey across the Adriatic and Central Italy to Switzerland. Shallow depression, with readings below 29·9 ins., lying off the east of England. Rise of barometer taking place later in most parts of Western Europe.

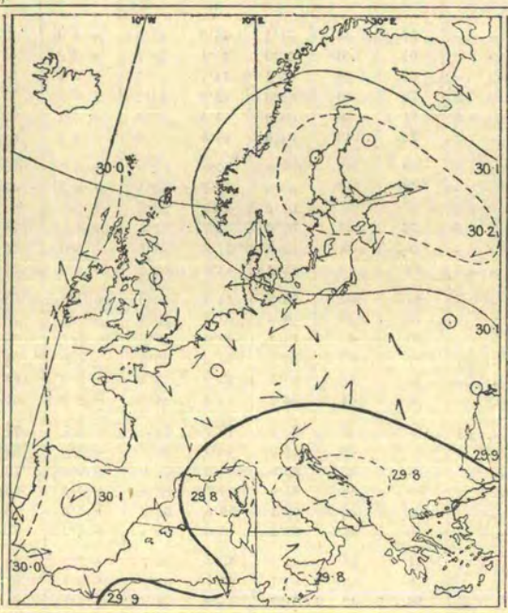
II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 20th May.

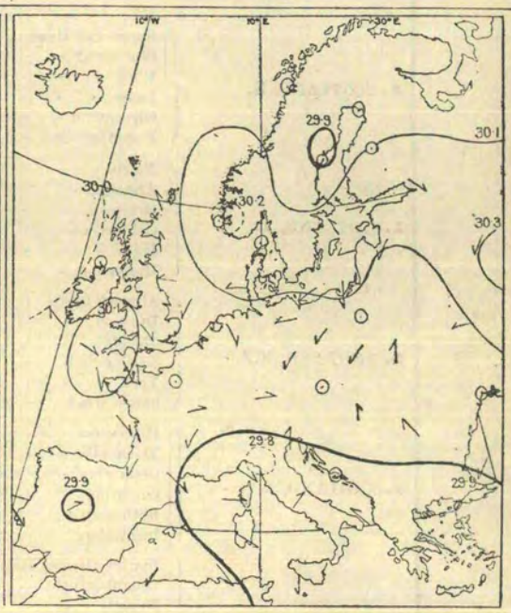
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather foggy or misty over the eastern parts of the United Kingdom, and dull on our extreme western coasts; fine at a large majority of the Continental stations, but rainy in Western Germany as well as in some parts of Algeria. A little rain falling later in Ireland, and large amounts at some of the French, Italian, and Algerian stations, the heaviest being 1·1 inches at Turin and 1·0 inch at Nemours.

Temperature highest, 65° and upwards, over the Mediterranean and Adriatic; 60° and upwards, at several of the German and Austrian stations; lowest, 40° or less, over Northern and Central Russia, the lowest reading of all being 32° at Archangel. Subsequently rising to between 70° and 75° over Central England as well as in many parts of Central and Southern Europe; maxima exceeding 90° registered over Central Algeria.

Wind light from the Eastward over the central and southern parts of Russia, the Baltic, North Germany, and Austria, but North-Easterly or Northerly in the east of England, and North-Westerly in France. Light South-Easterly or Southerly in the west and north of our Islands; Westerly over the northern parts of Scandinavia and Russia. Light and variable over Italy, Algeria, and the Mediterranean. No important change occurring later.

Barometer highest, 30·2 ins. and upwards, in a large area extending from Sweden across Finland and exceeding 30·3 ins. over Russia; high, 30·0 ins. to 30·1 ins., over nearly the whole of Western Europe. Lowest, 29·8 ins. and less, in two shallow depressions—one lying over the central parts of Italy and the Adriatic, and the other to the westward of Corsica. Well-marked depression, with readings below 29·9 ins., subsequently appearing over Central Sweden.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the earlier part of this week the weather over the United Kingdom was changeable and rather showery, and similar conditions prevailed at times over Central Europe, with occasional thunderstorms; the pressure in all these regions was rather low in comparison with that prevailing over Northern Europe on the one hand and the Spanish Peninsula on the other, and local disturbances of slight intensity were frequently observed. Later on the two high pressure systems became united by a "col" which lay over the British Isles and northern parts of the North Sea. The weather consequently began to improve in our neighbourhood, and temperature increased, so that on Monday (20th) the thermometer rose to between 70° and 75° over Central England during the day. The barometric gradients have been slight throughout the week.

III.—DATA from which the SUMMARY on page 115 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	55	41	51·1	43·9	47·3	+ 0·8	37	0	1	0·06	−0·33	*	*
	Stornoway	61	43	56·9	45·1	50·7	+ 3·2	61	0	5	0·61	+0·01	21·5	19
	Wick	60	39	55·1	44·1	49·3	+ 2·1	51	0	2	0·03	−0·33	*	*
	Lairg ℌ	70	39	62·6	42·9	52·2	+ 5·7	71	0	2	0·16	−0·37	*	*
	Glencarron ℌ	71	38	63·3	44·4	53·3	+ 6·5	79	0	3	0·33†	−0·77	13·8	12
	Fort Augustus ℌ	72	40	64·0	45·0	53·9	+ 5·2	83	0	2	0·35†	?	*	*
1. SCOTLAND, E.	Nairn	70	43	60·0	45·4	52·3	+ 3·6	72	0	3	0·29	−0·10	*	*
	Aberdeen	62	42	53·6	43·7	48·4	+ 0·3	45	0	2	0·15	−0·27	25·0	22
	Braemar ℌ	67	37	61·1	41·3	50·6	+ 5·0	63	2	2	0·58	+0·09	36·3‡	32‡
	Ochtertyre ℌ	73	42	61·6	44·7	52·6	+ 4·1	74	0	3	1·08	+0·53	*	*
	Leith	60	43	54·6	44·3	49·1	− 1·0	50	0	2	0·29	−0·09	*	*
	Marchmont ℌ	73	40	63·4	43·1	52·6	+ 4·9	74	0	2	0·15	−0·37	37·8	33
2. ENGLAND, N.E.	Alnwick Castle	61	41	56·3	44·4	50·0	+ 1·1	56	0	2	0·18	−0·31	*	*
	Durham	73	40	64·3	43·6	53·3	+ 3·7	79	0	1	0·01	−0·48	37·9	34
	Shields	61	42	54·4	43·4	48·6	− 0·9	46	0	1	0·04	−0·36	*	*
	Scarborough ℌ	60	42	53·9	45·3	49·3	− 0·6	51	0	0	—	−0·41	33·9‡	33‡
	York	75	43	66·0	45·9	55·4	+ 3·9	94	0	0	—	−0·40	32·5	29
	Spurn Head	56	41	53·1	44·4	48·5	− 2·2	46	0	1	0·07	?	*	*
3. ENGLAND, E.	Hillington ℌ	67	42	60·6	46·2	53·0	+ 2·1	77	0	3	0·38	−0·03	23·2	21
	Yarmouth	58	43	54·9	46·4	50·4	− 1·3	59	0	4	0·61	+0·20	*	*
	Geldeston	67	43	59·8	46·8	52·9	+ 0·9	76	0	1	0·40	+0·01	15·5	14
	Cambridge	69	42	61·9	46·7	53·8	+ 1·4	83	0	3	0·14	−0·26	19·2	18
	Rothamsted	68	43	60·1	46·5	52·9	+ 1·0	76	0	2	0·16	−0·30	*	*
	Ingatestone	69	42	63·2	46·6	54·4	+ 1·2	87	0	2	0·05	−0·34	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	71	44	63·0	47·3	54·7	+ 3·3	89	0	0	—	−0·42	18·5‡	17‡
	Loughborough	73	45	65·1	47·7	55·9	+ 3·7	97	0	1	0·02	−0·42	18·5‡	17‡
	Cheadle ℌ	68	45	61·7	46·9	53·9	+ 3·0	83	0	1	0·02	−0·50	*	*
	Churchstoke ℌ	71	40	64·3	44·4	53·8	+ 2·7	83	0	2	0·26	−0·16	31·9	29
	Hereford ℌ	72	44	66·2	48·2	56·7	+ 4·3	103	0	1	0·12	−0·30	*	*
	Cirencester	69	42	62·4	47·6	54·6	+ 2·5	88	0	2	0·11	−0·35	27·6	25
	Oxford	71	45	62·4	47·9	54·7	+ 2·3	89	0	2	0·36	−0·05	17·1	16
5. ENGLAND, S.	London	70	45	64·4	48·3	55·9	+ 2·6	97	0	2	0·21	−0·19	20·8‡	19‡
	Strathfield Turgiss ℌ	71	44	64·3	47·5	55·4	+ 3·9	94	0	3	0·31	−0·05	*	*
	Dungeness	61	46	58·9	47·9	53·1	+ 0·2	78	0	4	0·49	+0·09	*	*
	Hastings (St. Leonard's)	60	47	58·4	47·6	52·7	0·0	75	0	2	0·13	−0·28	45·5	42
	Southampton	70	48	66·1	50·1	57·6	+ 4·9	109	0	2	0·36	−0·09	31·8	29
	Hurst Castle	64	46	62·0	49·7	55·5	+ 2·8	95	0	4	0·24	−0·15	*	*
	Stowell ℌ	67	46	62·4	48·0	54·8	+ 3·2	90	0	2	0·40	?	26·8‡	25‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	67	45	61·0	48·5	54·4	+ 5·2	87	0	3	0·35†	−0·53	*	*
	Glasgow	71	44	61·9	45·8	53·4	+ 4·5	80	0	4	1·00	+0·48	21·5	19
	Ardrossan	64	44	60·7	47·0	53·4	+ 4·0	80	0	2	0·52	+0·02	*	*
	Glenlee S	70	37	64·6	44·4	53·9	+ 5·2	83	0	3	0·47†	−0·15	*	*
	Douglas (Isle of Man)	64	40	60·7	45·1	52·4	+ 2·9	73	0	1	0·25	−0·17	48·7	44
7. ENGLAND, N.W.	Newton Reigny (Penrith)	70	37	65·6	43·6	53·9	+ 4·6	83	0	2	0·83	+0·42	53·5	48
	Barrow-in-Furness	65	45	60·3	48·1	53·8	+ 2·4	83	0	1	0·05	−0·35	*	*
	Stonyhurst	72	44	64·1	46·1	54·6	+ 3·3	88	0	2	0·12	−0·47	36·0	32
	Blackpool ℌ	67	45	63·6	46·8	54·2	+ 1·9	85	0	1	0·25	−0·17	48·8	44
	Manchester	69	46	64·5	47·6	55·5	+ 3·6	95	0	1	0·59	+0·08	*	*
	Liverpool Obsy (Bidston)	64	47	61·7	48·4	54·7	+ 2·4	89	0	0	—	−0·40	*	*
	Llandudno ℌ	64	45	60·3	47·0	53·3	+ 0·7	79	0	3	0·53	+0·13	43·3	39
	Holyhead	63	44	57·9	47·1	52·2	+ 0·3	71	0	2	0·32	−0·09	*	*
8. ENGLAND, S.W.	Llandovery	78	36	66·6	42·1	53·6	+ 1·3	81	0	3	1·34	+0·73	*	*
	Pembroke	58	46	55·0	47·1	50·8	− 1·0	62	0	2	0·95	+0·51	39·9	37
	Arlington (N. Devon)	63	42	59·4	44·9	51·7	+ 0·1	68	0	2	0·83	+0·16	*	*
	Cullompton ℌ	71	42	65·1	47·0	55·5	+ 2·6	95	0	4	0·73	+0·26	36·9	34
	Falmouth	63	43	59·6	47·0	52·9	+ 0·4	76	0	3	0·85	+0·24	47·3	44
	Plymouth	70	40	63·3	47·7	55·0	+ 1·3	91	0	2	1·29	+0·82	36·8	34
	Prawle Point	63	45	59·4	47·3	53·0	+ 1·3	77	0	3	0·56	?	*	*
9. IRELAND, N.	Malin Head	63	45	57·0	47·9	52·2	+ 2·7	71	0	4	0·14	?	*	*
	Londonderry	68	42	63·1	47·5	54·8	+ 4·3	90	0	1	0·02	−0·52	*	*
	Mullaghmore	65	44	58·9	48·1	53·2	+ 1·4	78	0	5	0·36	−0·23	*	*
	Belmullet	58	43	56·6	47·0	51·5	+ 0·7	67	0	3	0·45	?	*	*
	Markree Castle	65	38	59·3	44·8	51·6	+ 0·2	67	0	3	0·44	−0·01	24·7	22
	Brookeborough	69	40	62·8	45·4	53·6	+ 2·2	81	0	0	—	?	*	*
	Armagh	69	43	62·8	46·9	54·4	+ 3·4	87	0	3	0·15	−0·30	24·6	22
	Donaghadee	57	45	54·9	47·3	50·9	+ 0·3	62	0	2	0·15	−0·34	*	*
	Edgeworthstown	68	37	63·0	44·9	53·4	+ 2·0	80	0	5	0·74	+0·23	*	*
10. IRELAND, S.	Dublin	70	42	62·6	49·2	55·5	+ 3·8	95	0	2	0·05	−0·37	29·5	27
	Parsonstown	69	45	63·6	48·1	55·4	+ 3·5	94	0	1	0·22	−0·28	27·9	25
	Kilkenny	70	45	63·1	48·3	55·3	+ 3·5	93	0	2	0·20	−0·22	*	*
	Waterford	66	42	62·1	47·1	54·2	+ 1·3	85	0	1	0·09	−0·42	*	*
	Roche's Point	60	46	57·3	48·4	52·6	− 0·4	74	0	1	0·20	−0·50	*	*
	Valencia	60	43	57·9	47·1	52·2	+ 0·2	71	0	6	0·69	+0·04	31·4	29
	Killarney	62	39	58·6	46·0	51·9	+ 0·1	69	0	2	0·17	?	*	*
	Foynes	67	44	60·3	47·8	53·7	+ 2·0	82	0	2	0·41	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	62	46	58·6	48·9	53·5	+ 0·5	81	0	1	0·17	−0·21	*	*
	Jersey	65	45	59·6	49·3	54·1	+ 0·4	85	0	3	0·72	+0·32	33·4	32

Stations marked ℌ are in connection with the Royal Meteorological Society, and those marked S with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

(OFFICIAL COPY.)

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VI. No. 21.] *Third Series.* WEEK ENDING MONDAY, 27TH MAY, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 126.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	73	35	62·0	45·9	53·4	5 above.	80	+38	0	− 6	414	+87	514	+ 6
	1. SCOTLAND, EAST	76	37	66·1	46·3	55·6	6 above.	95	+35	0	− 5	497	+39	548	+ 5
	2. ENGLAND, N.E.	78	37	63·1	48·7	55·4	4 above.	94	+32	0	− 3	470	+ 2	488	+ 6
	3. ENGLAND, EAST	81	46	67·4	50·7	58·6	5 above.	116	+41	0	− 3	589	−19	619	+112
	4. MIDLAND COUNTIES	82	40	67·1	49·1	57·5	4 above.	109	+33	0	− 3	623	−18	564	+ 60
	5. ENGLAND, SOUTH	82	46	68·4	51·9	59·7	6 above.	124	+42	0	− 1	669	−15	448	+ 75
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	75	36	64·4	46·9	55·1	5 above.	92	+29	0	− 2	558	+51	375	− 23
	7. ENGLAND, N.W.	76	37	63·8	48·6	55·7	3 above.	96	+28	0	− 1	544	+15	382	− 1
	8. ENGLAND, S.W.	80	40	63·7	49·0	55·9	2 above	97	+22	0	− 1	641 *	−50	321	+ 88
	9. IRELAND NORTH	74	36	62·1	48·0	54·6	3 above.	88	+24	0	− 1	607	+24	297	− 53
	10. IRELAND, SOUTH	73	37	62·6	47·8	54·7	2 above.	89	+17	0	− 1	728	− 2	225	− 14
	— CHANNEL ISLANDS	72	47	62·7	51·4	56·7	2 above.	103	+24	0	0	776	+ 6	77	− 16

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 126.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	3	4	0 (average).	107	+14	17·6	+0·8	29	25	375	−128	22	− 7
	1. SCOTLAND, EAST	2	3	2 less.	82	+ 8	9·2	−2·5	61	53	450	−111	26	− 7
	2. ENGLAND, N.E.	4	11	7 more.	76	+ 3	9·2	−0·4	40	35	407	− 96	24	− 5
	3. ENGLAND, EAST	4	13	9 more.	82	+ 7	9·0	+0·2	53	48	431	−176	25	−10
	4. MIDLAND COUNTIES	4	15	10 more.	75	+ 3	12·6	+2·2	41	36	387	−150	23	− 8
	5. ENGLAND, SOUTH	3	14	10 more.	79	+ 8	9·8	−0·5	43	39	409	−154	24	− 9
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	2	1	4 less.	89	+ 6	16·5	−1·4	62	54	466	− 54	27	− 3
	7. ENGLAND, N.W.	2	2	3 less.	82	+ 7	11·2	−1·9	57	51	444	− 79	26	− 4
	8. ENGLAND, S.W.	3	5	1 less.	77	− 2	14·0	−2·3	50	46	533	− 79	31	− 5
	9. IRELAND, NORTH	3	6	0 (average).	99	+ 8	14·7	+1·6	45	40	388	−149	22	− 9
	10. IRELAND, SOUTH	3	6	0 (average).	88	+ 2	14·5	−1·2	57	50	501	−102	29	− 6
	— CHANNEL ISLANDS	3	2	2 less.	86	0	9·7	−2·9	49	45	616	−118	36	− 7

General Remarks.

Weather has varied considerably in different parts of the Kingdom. In the greater part of Ireland and Scotland fair or fine conditions prevailed (with a few dull and showery intervals) throughout the period. Over England, however, where it was very fine and dry during the earlier days of the week, it subsequently became rainy and unsettled, with frequent thunderstorms. In the south and south-east the rainfall was exceedingly heavy.

Temperature has continued above the mean, the excess having ranged from 2° to 5° in the "Grazing Districts" and from 4° to 6° in the "Wheat-producing Districts". The average values over the Kingdom generally have not been so high during any week in May since the period ending 30th May 1881. The highest of the maxima, which were registered either on the 21st or 22nd in Scotland, the 23rd or 24th in England, and towards the close of the week in Ireland, varied from 72° in the "Channel Islands" to between 78° and 82° over the greater part of England. The lowest of the minima, which were recorded on somewhat irregular dates, ranged from 35° in "Scotland, N." to 46° in "England, E." and "England, S." and to 47° in the "Channel Islands". On most occasions the minima were again very high for the time of year; in London the lowest reading during the night of the 24th–25th was 59°.

Rainfall has been less than the mean in Scotland, the west of England, and the "Channel Islands", and has not differed from the normal in Ireland. Over central, southern, and eastern England, however, the fall has greatly exceeded the mean. The heaviest falls were experienced at the southern and south-eastern stations and occurred on the 25th and 26th.

Bright sunshine shows a general and decided increase, the percentage of the possible duration having ranged from 25 to 54 in Scotland, from 49 to 50 in Ireland, and from 35 to 51 in England.

Barometer and Wind.—The distribution of barometric pressure over our Islands has been rather complex and the changes irregular. At first a band of relatively high pressure stretched across England and the North Sea, but this gradually gave way, and small thunderstorm disturbances appeared in different parts of the Kingdom, and larger low pressure areas to the westward and north-westward. Light breezes from between South and West have been most prevalent in the west and north; in the south and east the wind has been more variable, but as a whole light from the Northward or North-Eastward.

* This value has been altered owing to the receipt of further information.

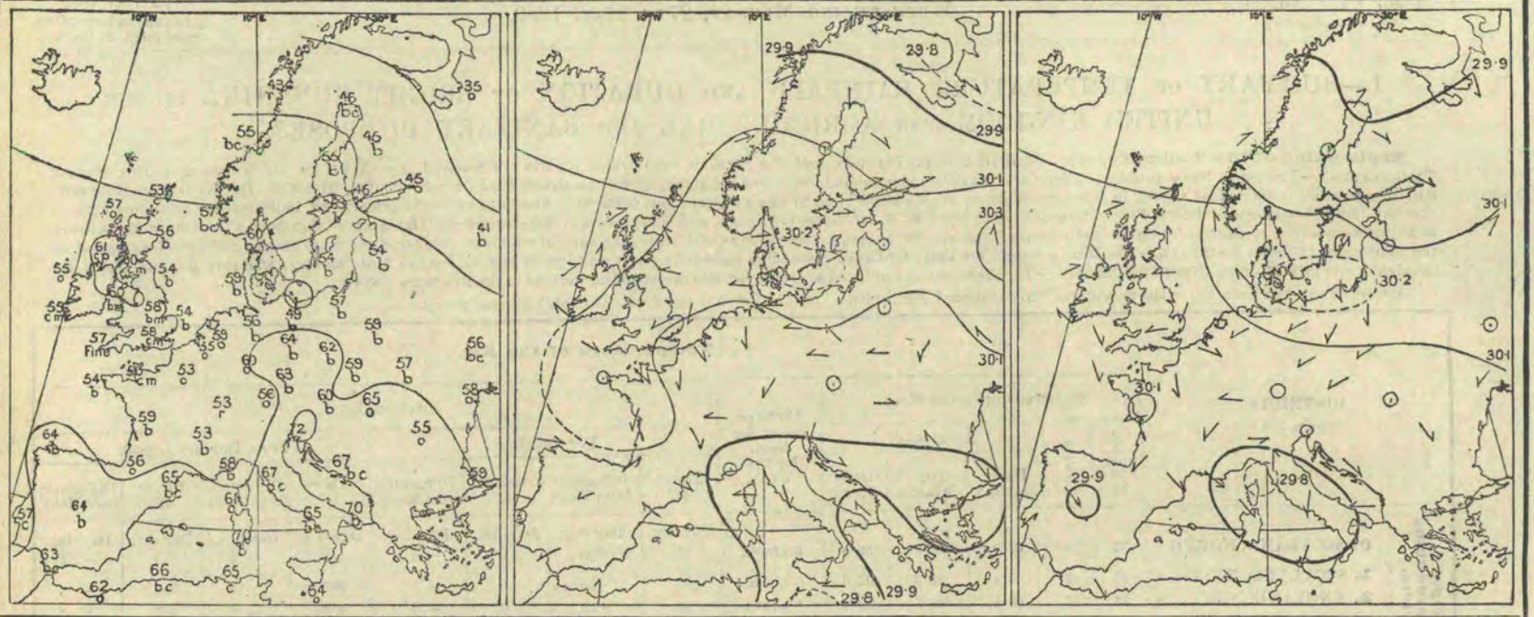
A 58882. 350.—5/89. Wt. 36. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 21st May.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine over nearly the whole of Europe, but rainy in some parts of Central France, as well as at Bodö, showery at Malin Head. A little rain falling later in the extreme north of Scotland, and thunderstorms occurring at Wiesbaden and Vienna.

Temperature highest, 65° to 70°, over the Adriatic and Mediterranean; a little above 60° in the north of Ireland and some parts of Germany and Austria. Lowest, 40° and less, in the extreme north of Russia (Archangel 35° Faht.); low, 45° and less, over Central Russia and the north of Norway. Subsequently rising a little above 72° over Central Scotland, and a little above 75° in some parts of Central England.

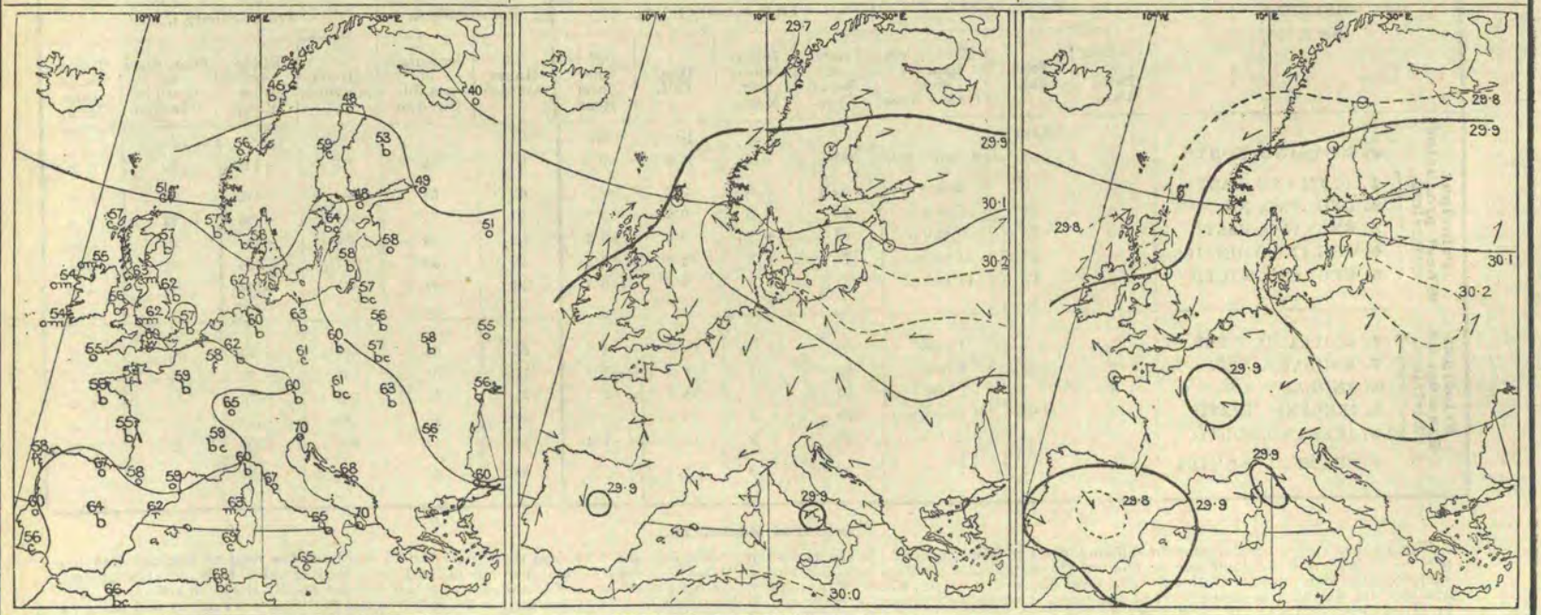
Wind light from the Southward (South-East to South-West) in the west and north of our Islands, and from West or North-West over the greater part of Sweden and Northern Russia. Chiefly Easterly in Central Europe, and Northerly over France and the east and south-east of England. Light and variable over Italy, Algeria, and the Mediterranean. Subsequently becoming very variable over France and the south-east of England.

Barometer highest, 30·3 ins. and upwards, over Central Russia, but high, 30·1 ins. and upwards, in a broad band extending thence across the Baltic, the south of Scandinavia, and the North Sea, to England, the east of Ireland, the west of France, and the Bay of Biscay. Lowest, 29·8 ins. and less, in the extreme north of Russia and also in a shallow depression lying off the Tunisian coasts. Further shallow disturbances developed later over Central Spain and between the coasts of Corsica and Italy.

Wednesday, 22nd May.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine over the greater part of Europe, but dull in the extreme west of our Islands, as well as in Russia and the northern parts of Scandinavia and Italy. Fog or mist reported at some of the English stations and rain at Bodö and Hermanstadt. Thunderstorms with heavy rain occurring later over Northern Italy and the southern parts of France, and slight rain falling in the extreme north and north-west of our Islands.

Temperature highest, 65° to 70°, over the Adriatic and Mediterranean; a little above 60° over Germany, Denmark, the south of Sweden, and the central parts of our Islands. Lowest, 40° at Archangel; low, 50° and less, over Lapland and some parts of Finland. Subsequently rising to a little above 80° over the midland counties of England and reaching 86° at Biskra (Algeria) and 87° at Madrid.

Wind light or moderate from the Southward in the west and north of our Islands and light from South-West or West over the greater part of Northern Europe. Chiefly North-Easterly over France and the east and south of England, and Easterly over Italy, Algeria, and the central parts of the Continent; variable over Spain and the Mediterranean. Subsequently shifting to the northward at the Algerian stations, but no important change occurring elsewhere.

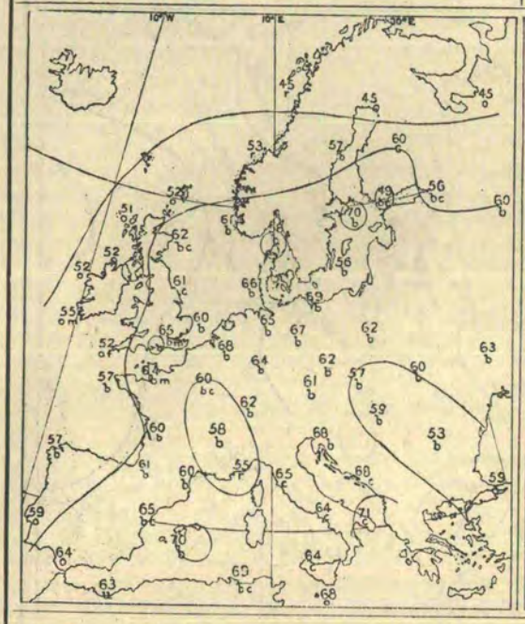
Barometer highest, 30·2 ins. and upwards, in a long band extending from the southern parts of Central Russia to North Germany and the Baltic; somewhat high, 30·0 ins. and upwards, over the North Sea, England, the Bay of Biscay, and the west of France. Lowest, 29·7 ins. and less, in a depression lying off the extreme north-west of Norway, but small shallow depressions with readings below 29·9 ins. lying respectively over Central Spain and the vicinity of Naples. Another shallow disturbance appearing later over Western Germany.

II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 23rd May.

Temperature and Weather.

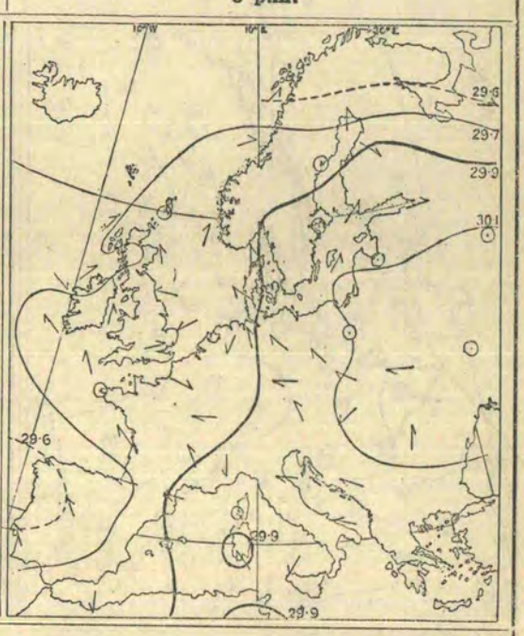
8 a.m.



Barometer and Wind.

8 a.m.

6 p.m.



Weather remaining fine over the greater part of Europe, but dull in Ireland and the west of Scotland, foggy at the mouth of the Channel, and rainy in the west of Norway and the extreme south of France. A thunderstorm reported at Oran (Algeria). Thunderstorms and heavy rain occurring later in many parts of England, as well as in Spain and Italy.

Temperature highest, 70° or a little above, at some of the Mediterranean stations; 65° or rather more in several parts of Germany and Eastern England. Lowest, 45° or less, in Lapland and the extreme north of Russia. Subsequently rising to a little above 80° over the inland parts of England, as well as at some of the Swedish and German stations.

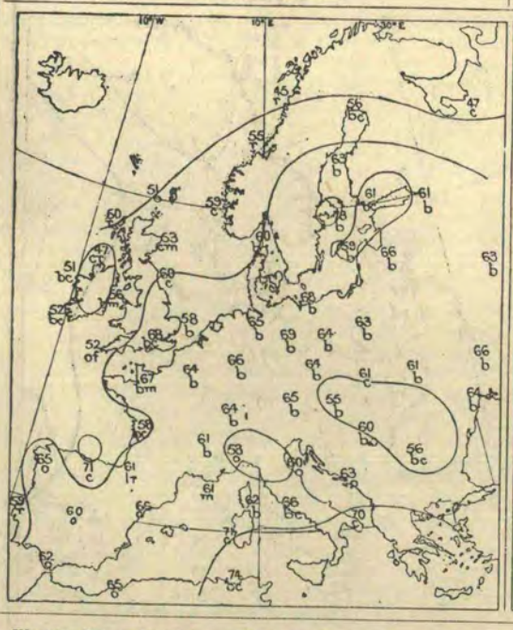
Wind light or moderate from the Southward or South-Westward over Scandinavia and the north of our Islands; Westerly at most of the Russian stations. Chiefly South-Easterly over France, Spain, and Central Europe, but exceedingly variable over Italy, the Mediterranean, and the southern parts of our Islands. Subsequently veering to the North-Westward in the north of Ireland, but not changing much elsewhere.

Barometer highest, 30·2 ins. and upwards, over the south of Russia; lowest, 29·6 ins. and less, in the extreme north of Norway. Distribution of pressure over Western Europe very irregular; small depressions, with readings about 29·8 ins., found respectively over the north-east of France and to the north-westward and south-westward of the Iberian peninsula. Further shallow disturbances appearing later over Central England and Sardinia.

Friday, 24th May.

Temperature and Weather.

8 a.m.



Barometer and Wind.

8 a.m.

6 p.m.

Weather fine and bright over Northern, Eastern, Central, and Southern Europe, as well as in Holland and the east of England; cloudy and unsettled in most other places, with rain in Norway, Ireland, and at Lisbon. Thunderstorms later in the north and east of England and in several parts of Western and Southern Europe; rain heavy at York, at many of the French stations especially in the south-west and south, and at Nemours.

Temperature fallen decidedly over Ireland and slightly over Scotland; still high over England, and rising over the Continent. Morning readings ranging from less than 50° in the extreme north of Europe and in many parts of Ireland, to upwards of 60° at nearly all the Continental stations, to 69° at Berlin, and to 70° and more in several places on the shores of the Mediterranean, as well as at Bilbao and Stockholm. Rising to upwards of 80° at Loughborough and in London later, also at Berlin, as well as in the south of Italy and several parts of Algeria.

Wind mainly South-Easterly to Southerly on the Continent and England; South-Westerly over the Baltic; North-Westerly to Northerly in Ireland; variable elsewhere; light to moderate everywhere; Easterly and variable in the south of France. Remaining very variable over Western Europe during day, but with the North-Westerly current in the west tending to spread eastwards towards England; the Easterly wind becoming strong in the south of France, and a Westerly gale setting in at Algiers.

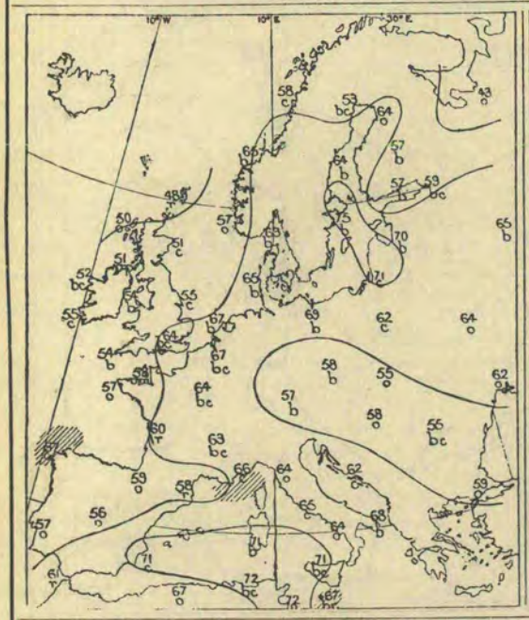
Barometer highest over Eastern and Central Europe, lowest in shallow disturbances over the British Isles and their neighbourhood, the Bay of Biscay, Spain, and the southern parts of the Mediterranean. New high-pressure area appearing in the far west later, the barometer continuing to fall in the east and over the Continent generally, and a new shallow depression appearing over Eastern Algeria.

II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 25th May.

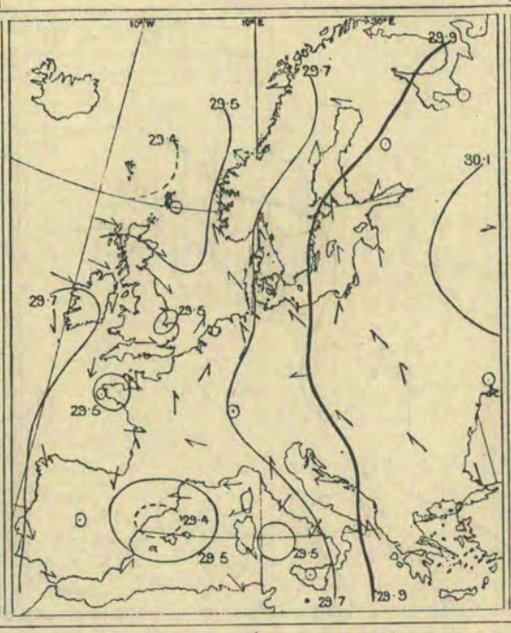
Temperature and Weather.

8 a.m.

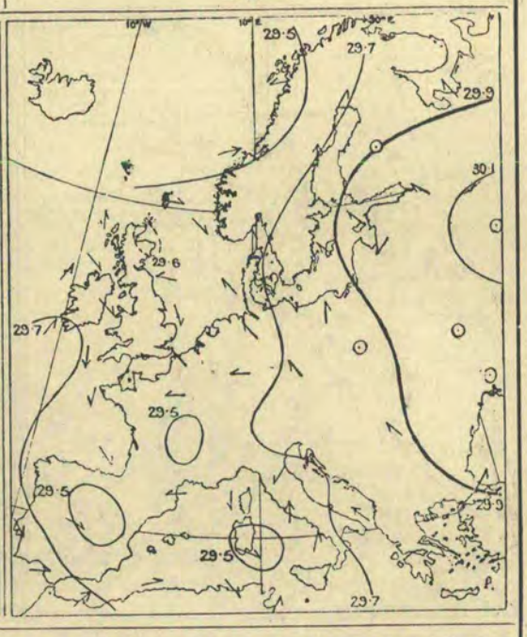


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine generally at our western stations and over the Northern, Central, and Eastern parts of Europe, very unsettled elsewhere, with heavy rain at times in several localities. Thunderstorms very prevalent in the unsettled districts later, with very heavy local falls of rain in the south-east of England, the southern parts of France, and in Italy.

Temperature falling decidedly over England, rising over Russia, and Southern Europe; morning readings ranging from less than 50° at Archangel and Sumburgh Head to between 50° and 60° over the British Islands, Spain, and Austria-Hungary, to more than 60° elsewhere, and to more than 70° at one or two stations on the shores of the Baltic, and in the far south. Daily maxima exceeding 80° at some of the southern stations later, and in Sweden.

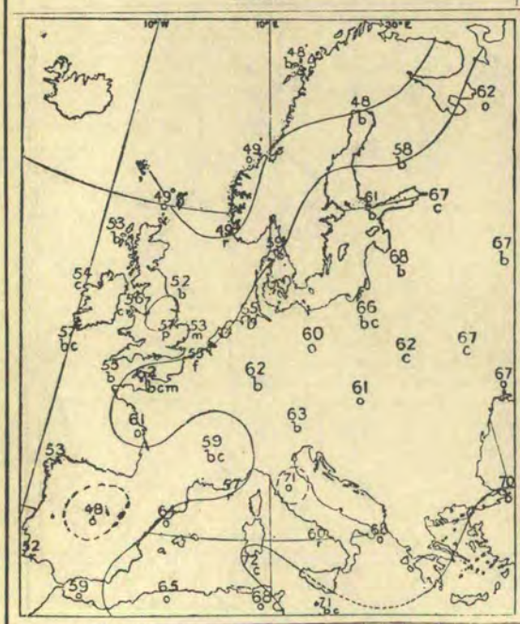
Wind of little strength generally; in direction varying from between South and South-East over Northern, Eastern, and Central Europe, North-Westerly to Northerly over the greater part of the British Islands and in Spain, variable within the limits of the low pressure area mentioned below. Gale from the Eastward over the south of France and north-east of Spain, varying exceedingly in direction on the other Mediterranean coasts, and subsequently becoming strong in force.

Barometer remaining highest (29·7 ins. to 30·1 ins.) in a large anticyclone lying over Sweden, the Baltic, and the whole of Eastern, South-Eastern, and Central Europe, and exceeding 29·7 ins. in a similar system lying over the Atlantic, the two systems being separated by a well marked low-pressure band, extending from the Pyrenees, across the western parts of France, the Channel, England, and the North Sea, and uniting a cyclonic system off our northern coasts with another over the Mediterranean near Barcelona. Low pressure band moving eastwards later, but barometer not rising in west.

Sunday, 26th May.

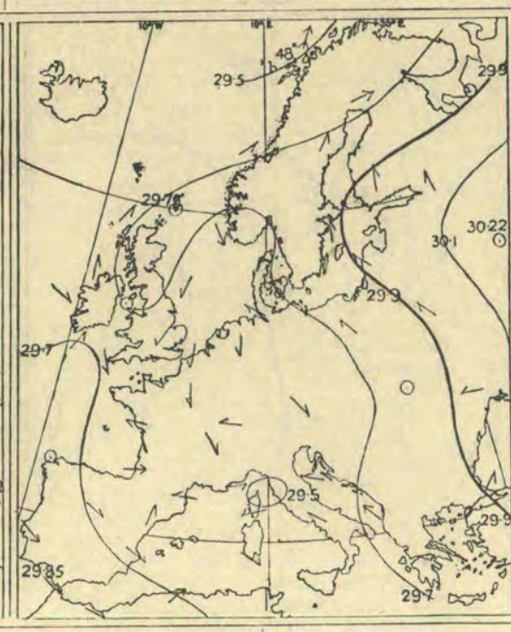
Temperature and Weather.

8 a.m.



Barometer and Wind.

8 a.m.



6 p.m.

Weather fine, bright, and warm over Northern, Eastern, South-Eastern, and Central Europe, changeable over the British Islands, the West of France, the Spanish Peninsula, and at most of the Mediterranean stations. Very dull over the Midland and South-Eastern parts of England, with heavy local rains.

Temperature falling over Western, rising over Eastern and Northern Europe; below 50° over Lapland, Norway, and the Shetlands, as well as Madrid, and very little above that value in the south of France; above 60° over the Continent as a whole, and above 70° at a few of the most southern stations. Daily maxima again exceeding 80° in many parts of Austria, but not exceeding 66° in our Islands, except at Dungeness, where the thermometer rose to 75°. Maxima at Bodö and Christiansund, 50°.

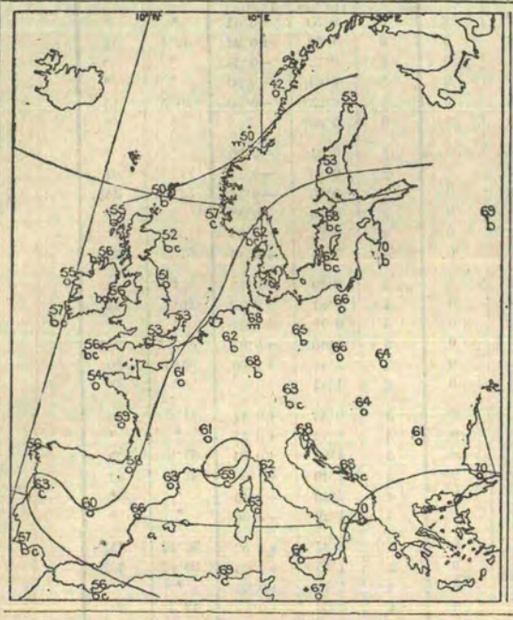
Wind Easterly to Southerly over Russia, Germany, and the Baltic; South-Westerly in the north of Scandinavia; North-Easterly over the greater part of England and north of France; extremely variable elsewhere, except over Algeria, where it was Westerly to South-Westerly. Southerly gales felt over the northern parts of Scandinavia during day; no decided change elsewhere.

Barometer rising over Russia, falling over Central and Southern Europe, rising slowly over England, decidedly in Scotland and the adjacent islands. Still highest over Russia, and over the Atlantic off our south-western coasts, low over France, Germany, and the Mediterranean. Gradients slight, and the low-pressure area changing its form considerably.

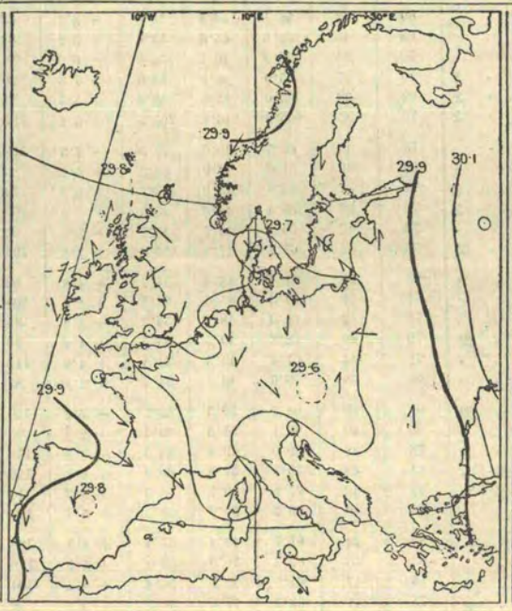
II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 27th May.

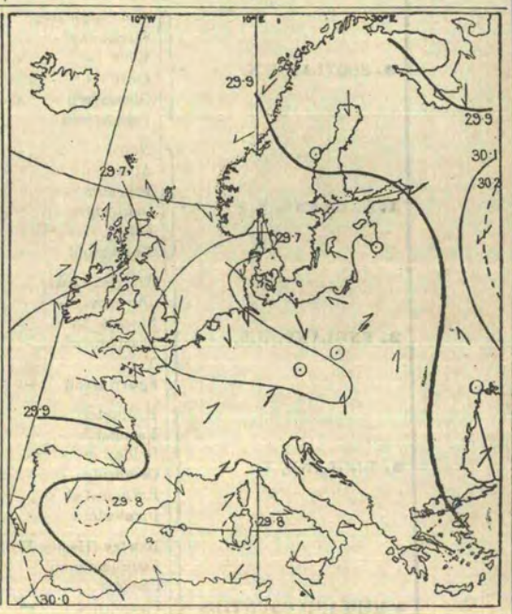
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather continuing fine over Russia, Germany, and Italy, as well as in Ireland and Scotland; dull elsewhere, with much rain in many parts of England and in some parts of Italy and the south-east of France. Thunderstorms and rain very prevalent over Southern Europe later, and showers in North Germany and almost all parts of the United Kingdom, with thunder in the East.

Temperature continuing rather low over western and Northern Europe, relatively high in the east and south-east; morning readings exceeding 70° on some of the Mediterranean coasts, at Constantinople, and in the Baltic Provinces; and readings of 69° recorded at Moscow and Rome, 68° at Stockholm and Trieste; those over the British Islands ranging from 50° to 57°, that at Bodö only 42°. Daily maxima exceeding 80° in several parts of Germany and Italy and some parts of France, and exceeding 70° in Denmark and Sweden, but not touching 65° in our Islands (except at Mullaghmore).

Wind slight, mainly South-Easterly over South-Eastern, Eastern, and Northern Europe; North-Easterly to Northerly and variable, in the west, very variable indeed elsewhere. Becoming South-Westerly on our west and north-west coasts later, but not increasing much in force.

Barometer still highest (29·8 ins. to 30·2 ins. and more) over Eastern Europe, and exceeding 29·9 ins. in the north-west of Spain, and apparently off our south-western coasts. Low (29·7 ins. and less) in a depression of very irregular form covering Germany and the east and south-east of France, and in another small one over Spain. The larger depression subsequently moving north-eastwards, and undergoing modifications in form; that over Spain travelling eastwards towards the Mediterranean; barometer rising over South-Western and Southern Europe, falling in the north-west and west of the British Islands.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the earlier part of this week pressure was highest over Russia, and in a broad band which extended from that country in a westerly direction to the British Islands, and thence in a south-westerly direction to the Bay of Biscay. As this band moved eastwards, and pressure became more uniform, temperature increased greatly over England, where maximum readings exceeding 80° were recorded on several consecutive days, while the thermometer was high over the Kingdom generally. Pressure then increased over the Atlantic, and, as it remained high over Eastern Europe, the weather became very showery and unsettled over England, France, and Germany within the low-pressure band which separated the high-pressure systems. Severe thunderstorms occurred from time to time in those regions, with heavy falls of rain in several isolated localities, and lower temperatures. In some places (*e.g.*, in London) the fall of rain on Sunday and Monday largely exceeded the average fall for the whole month.

III.—DATA from which the SUMMARY on page 121 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	60	42	56·1	46·3	50·9	+ 3·2	62	0	3	0·39	−0·01	*	*
	Stornoway	63	40	58·6	45·6	51·7	+ 3·2	68	0	5	1·52	+0·92	42·4	36
	Wick	70	35	62·9	46·1	54·0	+ 6·0	84	0	2	0·12	−0·26	*	*
	Lairg	70	37	65·9	45·0	54·8	+ 7·3	90	0	3	0·04	−0·50	*	*
	Glencarron	69	38	63·0	45·3	53·6	+ 5·3	81	0	5	0·25†	−0·90	15·5	13
	Fort Augustus	73	35	?65·3	?46·8	?55·5	? + 5·2	?95	0	2	0·02†	?	*	*
1. SCOTLAND, E.	Nairn	73	40	66·7	49·3	57·5	+ 7·3	169	0	2	0·31	−0·09	*	*
	Aberdeen	68	42	61·6	47·9	54·3	+ 5·1	86	0	2	0·24	−0·18	71·5	61
	Braemar	71	37	64·8	43·0	53·3	+ 5·9	79	0	1	0·03	−0·45	51·3‡	44‡
	Ochtertyre	76	38	69·4	44·6	56·3	+ 6·0	100	0	1	0·15	−0·43	*	*
	Leith	72	42	66·1	45·7	55·1	+ 3·6	92	0	2	0·20	−0·19	*	*
	Marchmont	75	42	67·7	47·3	56·9	+ 7·5	104	0	3	1·01	+0·46	61·3	53
2. ENGLAND, N.E.	Alnwick Castle	68	39	61·7	48·4	54·7	+ 4·8	89	0	2	0·59	+0·10	*	*
	Durham	75	37	67·3	46·6	56·3	+ 5·0	100	0	4	0·81	+0·32	50·1	44
	Shields	70	42	60·3	48·7	54·2	+ 3·8	85	0	3	0·79	+0·39	*	*
	Scarborough	70	42	62·2	49·5	55·5	+ 4·2	95	0	5	1·36	+0·94	36·6‡	32‡
	York	78	44	67·4	49·3	57·8	+ 4·9	111	0	5	1·46	+1·06	33·3	29
	Spurn Head	73	48	59·6	49·4	54·1	+ 2·1	85	0	6	1·81	?	*	*
3. ENGLAND, E.	Hillington	81	49	68·7	50·5	59·1	+ 7·2	120	0	3	0·53	+0·11	51·2	46
	Yarmouth	65	49	60·1	51·4	55·5	+ 2·8	95	0	4	0·74	+0·33	*	*
	Geldeston	78	48	69·0	49·4	58·6	+ 5·2	116	0	3	1·24	+0·84	61·0	55
	Cambridge	81	49	70·1	51·0	60·0	+ 6·7	126	0	4	1·49	+1·08	46·4	42
	Rothamsted	78	46	67·5	50·7	58·6	+ 4·7	116	0	4	2·63	+2·15	*	*
	Ingatestone	78	49	69·2	50·9	59·5	+ 5·6	123	0	4	1·20	+0·80	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	80	40	67·7	48·4	57·4	+ 4·1	108	0	5	1·47	+1·02	39·3‡	35‡
	Loughborough	82	46	69·3	50·0	59·0	+ 5·5	119	0	5	1·48	+1·03	39·5‡	35‡
	Cheadle	74	47	64·8	49·7	56·8	+ 4·4	104	0	4	1·17	+0·65	*	*
	Churchstoke	75	41	66·4	47·0	56·1	+ 3·7	99	0	4	0·60	+0·16	43·9	39
	Hereford	80	48	68·0	49·9	58·4	+ 4·5	115	0	4	1·20	+0·75	*	*
	Cirencester	75	44	65·7	47·7	56·2	+ 2·8	99	0	4	2·72	+2·24	41·5	37
	Oxford	77	48	67·6	50·9	58·6	+ 5·2	116	0	3	1·60	+1·18	36·3	33
5. ENGLAND, S.	London	82	51	71·3	53·3	61·8	+ 6·8	139	0	4	2·24	+1·83	36·7‡	33‡
	Strathfield Turgiss	79	46	69·3	50·6	59·4	+ 6·3	122	0	4	1·86	+1·48	*	*
	Dungeness	75	49	68·7	51·6	59·6	+ 5·7	123	0	2	1·04	+0·64	*	*
	Hastings (St. Leonard's)	73	50	69·0	53·4	60·7	+ 6·4	131	0	2	0·61	+0·21	63·3	58
	Southampton	80	48	70·3	52·8	61·0	+ 6·8	133	0	4	1·29	+0·84	38·0	35
	Hurst Castle	70	47	65·4	52·0	58·3	+ 4·6	114	0	2	1·67	+1·27	*	*
	Stowell	72	47	64·8	49·9	56·9	+ 4·5	104	0	4	1·10	?	34·2‡	31‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	71	41	64·2	48·8	56·0	+ 6·1	98	0	4	0·27†	−0·64	*	*
	Glasgow	74	43	66·1	48·3	56·7	+ 6·3	103	0	1	0·19	−0·36	50·6	44
	Ardrossan	68	45	62·9	50·0	56·1	+ 5·4	99	0	1	0·03	−0·47	*	*
	Glenlee	75	36	66·4	42·5	53·6	+ 3·3	81	0	1	0·03†	−0·59†	*	*
	Douglas (Isle of Man)	69	40	62·6	44·9	53·2	+ 2·5	78	0	1	0·08	−0·35	72·3	64
7. ENGLAND, N.W.	Newton Reigny (Penrith)	76	37	67·5	45·3	55·7	+ 5·4	96	0	2	0·14	−0·29	66·5	58
	Barrow-in-Furness	65	46	61·4	50·4	55·6	+ 2·9	95	0	2	0·14	−0·29	*	*
	Stonyhurst	72	39	65·7	47·9	56·3	+ 3·9	100	0	2	0·20	−0·42	55·8	49
	Blackpool	67	41	63·3	48·5	55·5	+ 1·8	95	0	2	0·19	−0·25	56·4	50
	Manchester	74	41	66·1	48·7	56·9	+ 3·5	104	0	2	0·23	−0·31	*	*
	Liverpool Obsy (Bidston)	72	47	63·4	51·0	56·7	+ 3·2	103	0	2	0·16	−0·24	*	*
	Llandudno	68	42	61·8	48·6	54·8	+ 1·1	90	0	2	0·19	−0·21	50·1	45
	Holyhead	65	44	61·0	48·4	54·3	+ 1·5	86	0	1	0·01	−0·41	*	*
8. ENGLAND, S.W.	Llandovery	80	40	68·9	47·3	57·3	+ 4·2	107	0	3	0·29	−0·34	*	*
	Pembroke	62	45	57·4	48·4	52·6	− 0·3	74	0	3	0·13	−0·32	52·9	48
	Arlington (N. Devon)	70	44	63·7	47·1	54·4	+ 1·2	87	0	3	0·53	−0·17	*	*
	Cullompton	73	45	66·8	49·2	57·5	+ 3·2	109	0	5	0·98	+0·49	43·4	39
	Falmouth	65	47	61·8	48·9	55·0	+ 1·3	91	0	2	0·56	−0·06	59·1	54
	Plymouth	70	48	66·3	51·7	58·6	+ 3·9	116	0	2	0·20	−0·27	44·8	41
	Prawle Point	66	46	62·1	50·1	55·7	+ 3·0	96	0	4	0·45	?	*	*
9. IRELAND, N.	Malin Head	67	46	59·0	50·0	54·2	+ 3·7	85	0	3	0·73	?	*	*
	Londonderry	74	42	65·6	48·4	56·5	+ 4·8	102	0	2	0·57	+0·02	*	*
	Mullaghmore	69	46	61·6	49·3	55·1	+ 1·9	92	0	5	0·93	+0·31	*	*
	Belmullet	62	43	57·3	49·4	53·1	+ 1·3	78	0	5	0·94	?	*	*
	Markree Castle	69	37	62·0	46·1	53·6	+ 0·7	81	0	4	1·01	+0·52	40·9	36
	Brookeborough	72	36	64·2	45·7	54·4	+ 1·8	87	0	2	0·29	?	*	*
	Armagh	72	38	63·7	46·6	54·6	+ 2·2	88	0	3	0·16	−0·29	48·4	43
	Donaghadee	63	48	60·1	50·4	55·0	+ 3·5	91	0	1	0·03	−0·46	*	*
	Edgeworthstown	73	37	65·0	46·4	55·1	+ 3·5	92	0	2	0·30	−0·23	*	*
10. IRELAND, S.	Dublin	73	42	64·9	49·6	56·8	+ 3·9	104	0	3	0·07	−0·36	65·2	58
	Parsonstown	73	37	65·7	46·1	55·3	+ 2·2	96	0	4	0·52	+0·01	53·1	47
	Kilkenny	71	38	64·0	45·3	54·1	+ 1·3	85	0	4	0·28	−0·15	*	*
	Waterford	68	38	64·6	45·1	54·3	0·0	86	0	3	0·26	−0·26	*	*
	Roche's Point	62	46	59·9	50·0	54·7	+ 0·3	89	0	4	0·62	−0·08	*	*
	Valencia	61	46	58·1	49·4	53·5	+ 0·3	81	0	4	0·81	+0·13	51·5	46
	Killarney	66	39	61·3	46·9	53·7	+ 1·1	82	0	3	1·13	?	*	*
	Foynes	70	45	61·9	49·9	55·5	+ 2·8	95	0	2	0·80	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	63	49	58·4	50·7	54·3	+ 0·1	86	0	4	0·32	−0·07	*	*
	Jersey	72	47	67·0	52·0	59·1	+ 4·1	120	0	2	0·04	−0·36	48·9	45

Stations marked ℜ are in connection with the Royal Meteorological Society, and those marked S with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
UBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VI. No. 22.] *Third Series.* WEEK ENDING MONDAY, 3RD JUNE, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number, TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 132.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	71	38	59·6	46·9	53·0	3 above.	77	+30	0	− 3	491	+114	514	+ 6
	1. SCOTLAND, EAST	69	38	61·6	47·5	54·2	3 above.	85	+19	0	− 3	582	+ 54	548	+ 5
	2. ENGLAND, N.E.	78	39	63·7	48·4	55·6	3 above.	95	+25	0	− 2	565	+ 24	488	+ 6
	3. ENGLAND, EAST	85	43	66·6	49·5	57·6	3 above.	109	+26	0	− 1	638	+ 6	619	+112
	4. MIDLAND COUNTIES	84	42	65·0	48·9	56·5	2 above.	102	+19	0	− 2	725	+ 1	564	+ 60
	5. ENGLAND, SOUTH	82	46	64·5	51·6	57·7	3 above.	110	+21	0	− 1	779	+ 3	448	+ 75
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	67	42	59·1	49·6	54·1	2 above.	85	+16	0	− 1	643	+ 63	375	− 23
	7. ENGLAND, N.W.	77	43	62·3	49·6	55·6	1 above.	95	+21	0	− 1	639	+ 33	382	− 1
	8. ENGLAND, S.W.	69	43	59·9	49·3	54·3	1 below.	86	+ 4	0	0	727	− 49	321	+ 83
	9. IRELAND, NORTH	73	40	59·7	47·9	53·4	0 (average).	80	+ 9	0	− 1	687	+ 29	297	− 53
	10. IRELAND, SOUTH	67	42	58·6	47·6	52·8	2 below.	76	− 2	0	0	804	− 7	225	− 14
	— CHANNEL ISLANDS	70	44	61·2	50·8	55·7	0 (average).	96	+11	0	0	872	+ 13	77	− 16

Rainfall.

	DISTRICTS. (See p. 132.)	For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.
			10ths of In.				Ins.	Ins.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	5	8	1 more.	112	+15	18·4	+1·0
	1. SCOTLAND, EAST	6	10	5 more.	88	+11	10·2	−2·0
	2. ENGLAND, N.E.	5	4	0 (average).	81	+ 5	9·6	−0·4
	3. ENGLAND, EAST	3	3	1 less.	85	+ 7	9·3	0·0
	4. MIDLAND COUNTIES	5	9	4 more.	80	+ 5	13·5	+2·6
	5. ENGLAND, SOUTH	3	3	1 less.	82	+10	10·1	−0·6
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	6	14	7 more.	93	+ 8	17·9	−0·8
	7. ENGLAND, N.W.	6	15	10 more.	88	+10	12·7	−0·9
	8. ENGLAND, S.W.	6	8	3 more.	83	0	14·8	−2·1
	9. IRELAND, NORTH	6	9	4 more.	105	+11	15·6	+2·0
	10. IRELAND, SOUTH	7	15	9 more.	95	+ 6	16·0	−0·3
	— CHANNEL ISLANDS	4	4	0 (average).	90	0	10·1	−2·9

Bright Sunshine.

	DISTRICTS. (See p. 132.)	For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	24	20	390	−145	22	− 8
	1. SCOTLAND, EAST	32	27	482	−133	26	− 8
	2. ENGLAND, N.E.	42	37	449	− 99	25	− 5
	3. ENGLAND, EAST	67	59	498	−165	27	− 9
	4. MIDLAND COUNTIES	55	48	442	−145	24	− 8
	5. ENGLAND, SOUTH	60	54	469	−146	26	− 8
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	35	31	592	− 70	27	− 4
	7. ENGLAND, N.W.	38	32	482	− 93	26	− 5
	8. ENGLAND, S.W.	44	38	577	− 86	31	− 5
	9. IRELAND, NORTH	33	28	421	−168	23	− 9
	10. IRELAND, SOUTH	36	32	537	−114	29	− 7
	— CHANNEL ISLANDS	54	49	670	−125	36	− 8

General Remarks.

Weather has been generally dull and rainy over Ireland, Scotland, and the extreme south-west and west of England, but over the east and south-east of England the conditions during the greater part of the week were fine. Thunder and lightning occurred in a few places during the earlier days of the period, and towards the end of the time thunderstorms of exceptional severity were experienced in nearly all parts of Great Britain; at many of our northern and eastern stations they were accompanied by exceedingly violent hail storms.

Temperature has continued above the mean in almost all districts, the excess having ranged from 1° to 3°; over Ireland, the south-west of England, and the "Channel Islands", however, it has either been rather below or has just equalled the normal value. The highest of the maxima, which were recorded on June 2nd over Great Britain and on various dates in Ireland, ranged from 67° in "Ireland, S." and "Scotland, W." to 77° in "England, N.W.", and to between 82° and 85° over southern, central, and eastern England. The lowest of the minima were recorded in most places on May 30th, and ranged from 38° in the north and east of Scotland to 46° in "England, S." Towards the close of the period the minima over England were very high; in London during the night of June 1st—2nd, the thermometer did not fall below 61°.

Rainfall has been a little less than the mean in the south and east of England, but more in nearly all other districts, especially in the north-west of England and the south of Ireland.

Bright sunshine shows a very general decrease in the west and north, but an increase over eastern, central, and southern England; the percentage of the possible amount of duration ranged from 20 to 31 in Scotland, and from 28 to 32 in Ireland, while over England it ranged from between 32 and 38 in the west to 54 in "England, S." and 59 in "England, E."

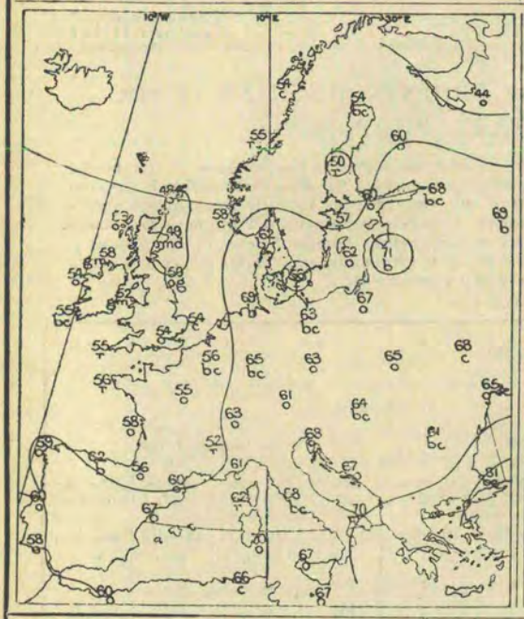
Barometer and Wind.—During nearly the whole of the period depressions moved in a northerly direction outside, or over, our extreme western coasts, and the winds over our Islands were consequently Southerly or South-Westerly. In the west they were generally fresh to strong in force, but in the south and east they were chiefly light or moderate. Towards the end of the week some shallow local disturbances appeared in different parts of the Kingdom, occasioning variable winds and the heavy thunderstorms noted above.

A 58965. 350.—6/89. Wt. 36. E. & S.

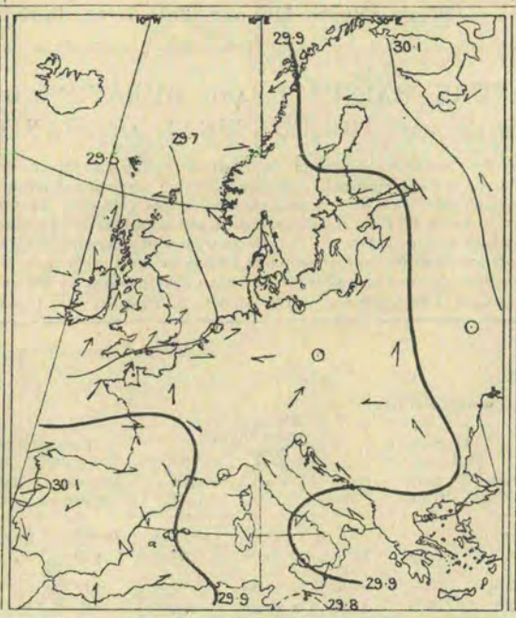
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 28th May.

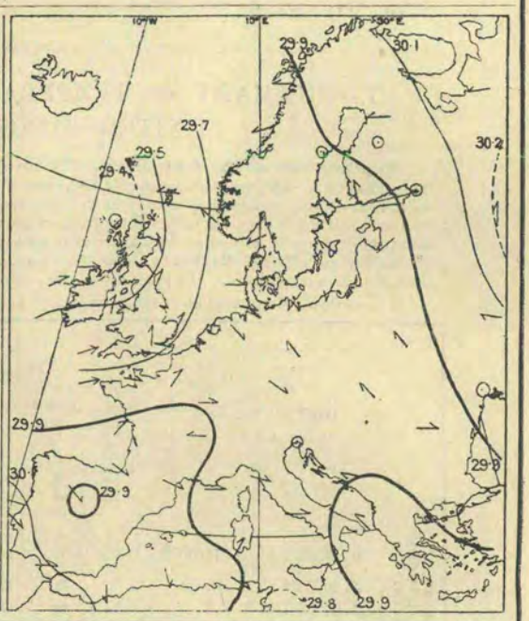
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine and bright over Spain, on the one hand, Germany and Russia on the other, dull over Austria, cloudy and changeable elsewhere, with showers in several places. Rainfall considerable in showers during the day, except over northern and the extreme south of Europe. Thunderstorms much less prevalent than of late.

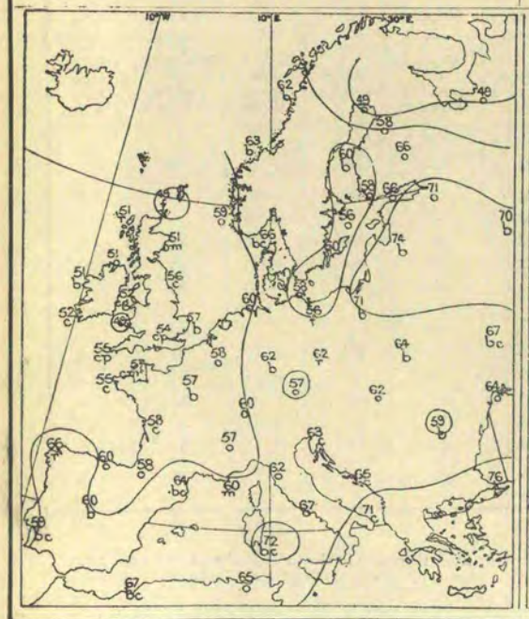
Temperature still high over Eastern and Central Europe, and the eastern part of the Mediterranean, low over the western and northern countries. Morning readings exceeding 70° in several localities, and as high as 65° to 70° in the eastern and central regions generally. Daily maxima exceeding 80° in a few isolated places only, but reaching 90° at Constantinople.

Wind Southerly to Easterly over Russia, Germany, the Baltic, and Scandinavia, and north of the British Isles; South-Westerly to Westerly, and freshening, over the Bay of Biscay, France, and the southern half of the United Kingdom; very variable over Spain, the south of France, and the Mediterranean. Southerly wind becoming more general over the British Islands later, and becoming more Westerly over Spain and the Mediterranean also; not much change elsewhere.

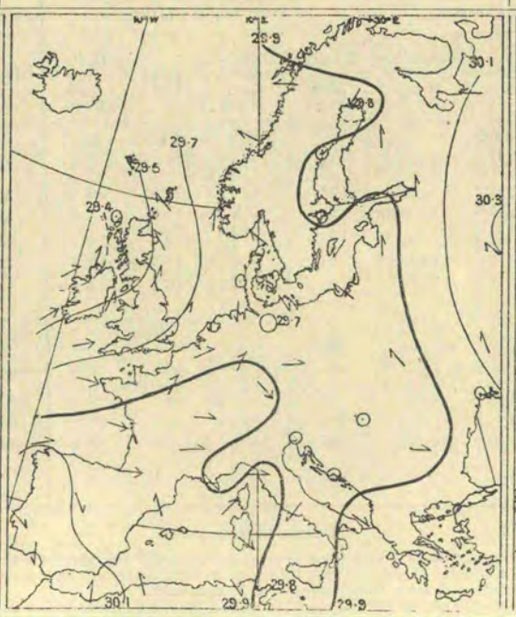
Barometer remaining highest (30·0 ins. to 30·2 ins.) over Russia, and becoming as high as 30·0 ins. to 30·1 ins. over the western part of the Spanish Peninsula; lowest, 29·5 ins. and less, in a large but shallow depression over the north-western parts of our Islands, rather low over Central Europe and the Baltic. Depression in north-west moving north-eastwards later, and a new one appearing off the Tunisian coast and moving northwards.

Wednesday, 29th May.

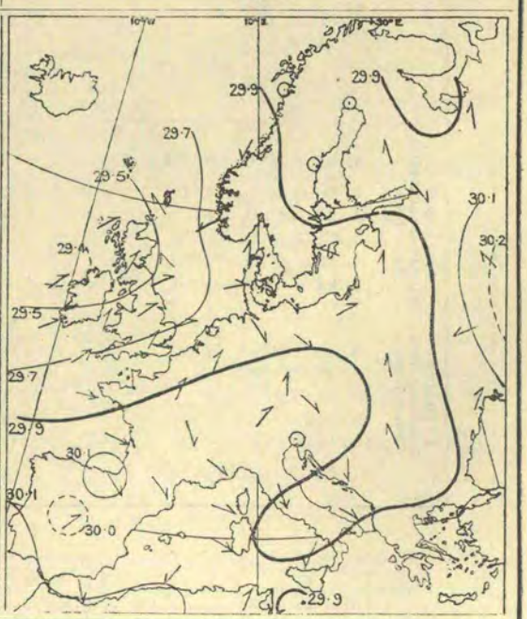
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather still fine over Russia and the Balkan peninsula as well as over the southern parts of Spain and Western Algeria, less fair elsewhere; cloudy, squally, and showery over the British Islands and their neighbourhood, dull and rainy over Austria, hazy and foggy in Scotland. Rain in considerable quantity over some parts of the British Islands, Denmark, and Norway later, and smaller quantities in France.

Temperature high over Eastern Europe and the Baltic provinces, and also on some of the shores of the Mediterranean—in both these regions the morning readings exceeded 70° at several stations; low and changeable over Northern Russia as well as over the British Isles, the neighbouring parts of the Continent, and Portugal. Maxima exceeding 80° in some parts of Russia, Austria, and Italy, and approaching 90° at Cagliari, hardly any above 62° over the British Islands.

Wind freshening considerably from between South-East and South-West over North-Western Europe (strong in the southern parts of the British Islands); moderate to light from the Westward over France, Southerly over Russia, very variable elsewhere, and of little force. Strong from South-West in the Channel and South of England later, but not much change in other regions.

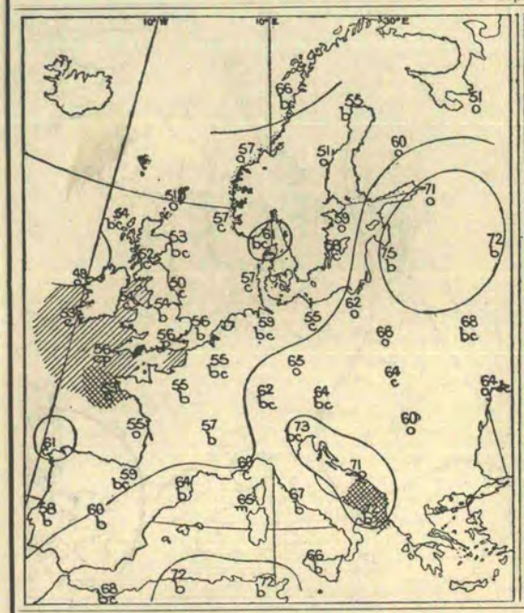
Barometer highest, 30·0 ins. to 30·3 ins., over Russia, and 30·0 ins. to nearly 30·2 ins. over the South-West of France and the Spanish Peninsula; lowest, 29·4 ins. and less, in a depression lying off our north-western coast, and somewhat low over Central Europe generally, as well as in a small depression at the Northern extremity of the Gulf of Bothnia.

II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 30th May.

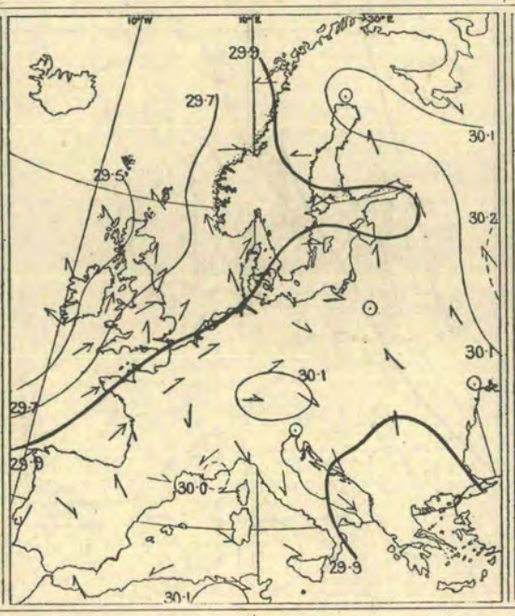
Temperature and Weather.

8 a.m.

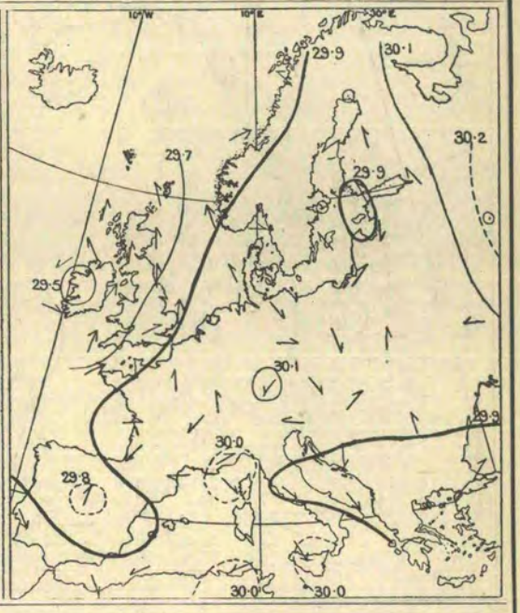


Barometer and Wind.

8 a.m.



6 p.m.



Weather changeable, cloudy, and rather showery, except in the south of England, and not settled over the Continent generally, though clear in the morning at many stations. Considerable rain in the west of France and in some parts of Scandinavia later, and smaller quantities over the United Kingdom; thunder and lightning in many parts of Europe, but bright intervals prevalent in most regions.

Temperature again above 70° in the morning over Russia and the Baltic provinces as well as on the shores of the Adriatic and in some parts of Algeria; below 60° over the greater part of the British Isles, Western and Northern Europe, and ranging from 63° to 69° over Austria. Rising to above 80° in the southern parts of France and Austria later as well as over Russia and at Constantinople.

Wind, South-easterly to South-westerly, strong over the United Kingdom, moderate over the Netherlands and north of France. South-easterly, moderate, on the eastern shores of the North Sea, very variable elsewhere. A gale experienced at Scilly later, but wind in Ireland subsiding.

Barometer rather high over Central Russia, and also over Germany, France, and Spain; low off our western coasts (the gradients being rather steep over the United Kingdom) and rather low over the Baltic, the Balkan Peninsula, and Greece. High-pressure area over France moving north-eastwards later; and an ill-formed depression reaching the west of our Islands.

Friday, 31st May.

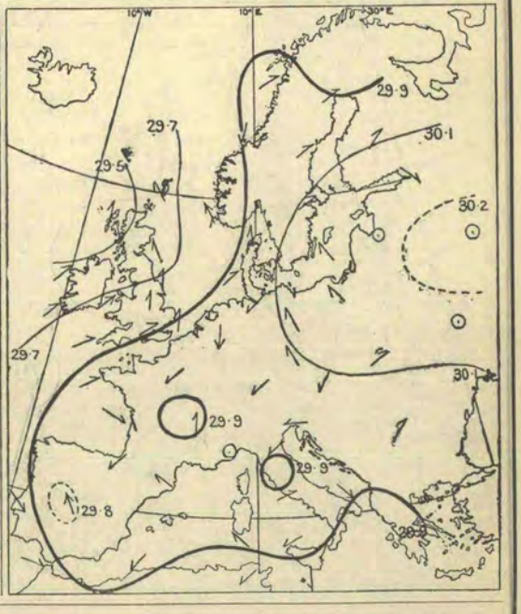
Temperature and Weather.

8 a.m.

Barometer and Wind.

8 a.m.

6 p.m.



Weather cloudy, changeable, and unsettled over our Islands except in the east; changeable over Western Europe generally, but fine in the central and eastern regions. Thunder and lightning in the south-west of France later, rain generally (in small quantity) on our north-western and northern coasts, and considerable local falls at some of the Spanish, French, and Norwegian stations.

Temperature falling over the Baltic; still high (above 70°) over Central Russia, on the shores of the Adriatic, and at several of the Mediterranean stations, but less than 60° over Western and North-Western Europe as a whole. Daily maxima becoming much higher than of late at several of the Algerian, French, and German stations, as well as in the south-east of England, but less high over Russia.

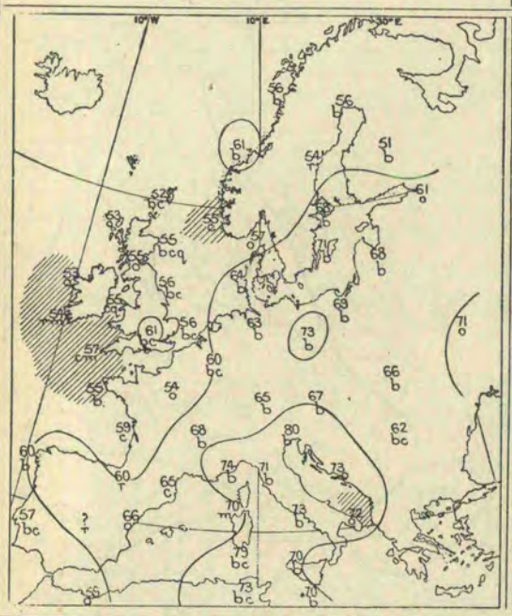
Wind Southerly, and rather strong, over Great Britain and in the west of Norway; moderate over the North Sea; very light and variable over the Continent generally. Becoming still more variable in Western Germany later, and blowing strongly in places.

Barometer high in a complex anticyclonic system lying over Eastern and Central Europe, low in irregularly formed depressions off our north-western coasts and the west of Spain. Local irregularities over France later, but not of any great amount.

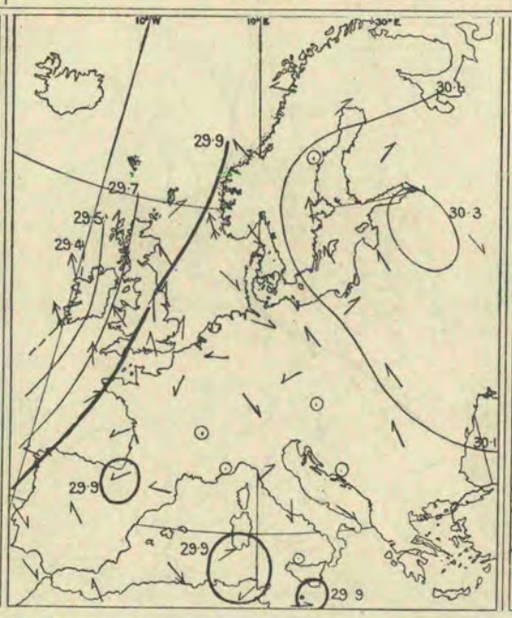
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 1st June.

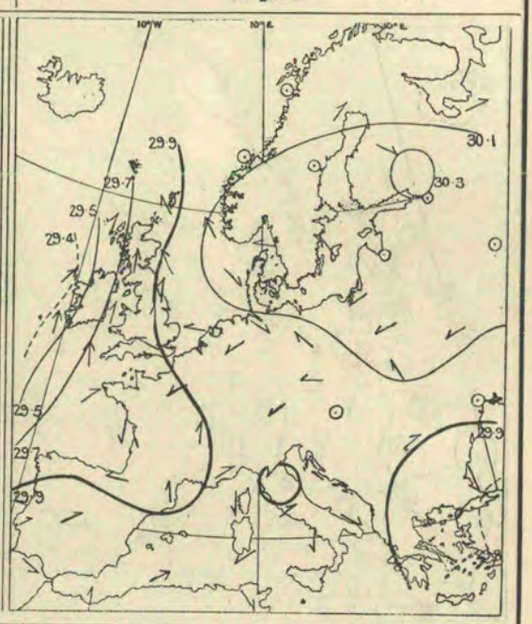
Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



6 p.m.



Weather fair generally, but dull over the western parts of Algeria, and rainy in Ireland, as well as at Hernösand, Biarritz, and Madrid. Heavy rain falling later in the south of Ireland, and thunderstorms occurring at night in the south of England.

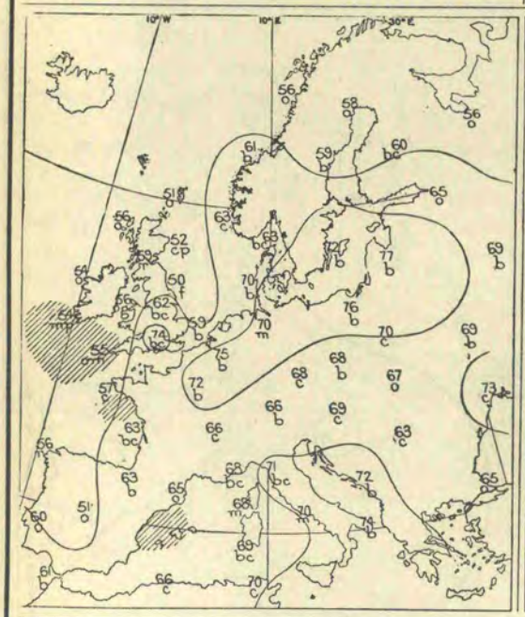
Temperature highest, 70° and upwards, over North Germany, Italy, Tunis, and the extreme south of France; lowest, 55° or less, over Finland and the west and north of our Islands. Subsequently rising to 75° in London, to 80° and upwards in many parts of Central and Southern Europe, and to 91° at Berlin.

Wind Southerly or South-Easterly in our Islands and the west of Norway; strong in force on our west coasts, with a gale in the south of Ireland. Light and variable in all other parts of the Continent. A light Southerly breeze springing up later over Central and Southern France, and a light Easterly breeze in Germany.

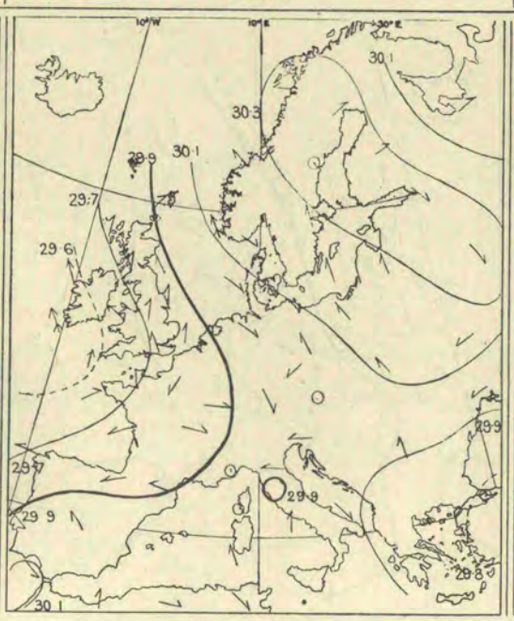
Barometer highest, 30·3 ins. and upwards, in an anticyclone lying over Central Russia; lowest, 29·4 ins. and less, in a rather deep depression lying to the westward of Ireland. Distribution of pressure very irregular over Southern Europe and the Mediterranean, shallow depressions being found respectively near Malta, off the north coast of Tunis, and over the north-east of Spain. Depression to westward of our Islands subsequently moving northwards; Spanish disturbance filling up.

Sunday, 2nd June.

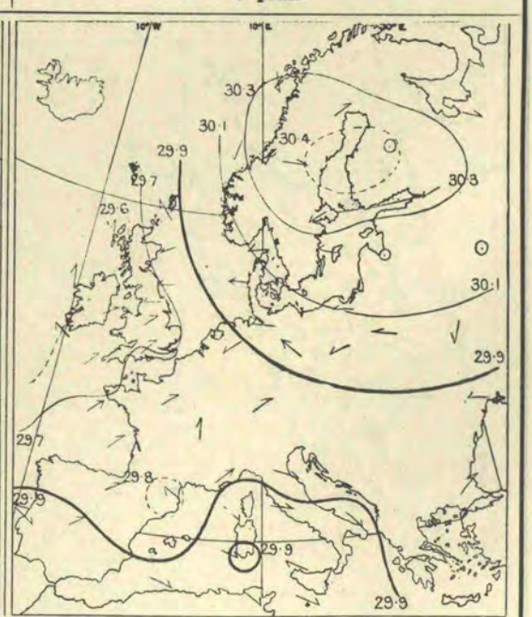
Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



6 p.m.



Weather fine generally, but dull at some of the Russian and Austrian stations, and rainy in Ireland and the west of Scotland, as well as at Corunna. Fog reported in the north-east of England. Severe thunderstorms occurring later in many parts of Great Britain and Germany, with exceedingly heavy hail in places.

Temperature highest, 75° and upwards, over North Germany; high, 70° and upwards, over Italy, Tunis, the south of Russia, and the inland parts of South-eastern England: lowest, 55° or less, in Ireland, the north and east of Scotland, and the north-east of England. Subsequently rising to 80° or upwards over Central England and many parts of Northern and Central Europe, the highest reading of all being 91° at Berlin.

Wind light or moderate from the Eastward or South-Eastward over the greater part of Western and Central Europe, but South-Westerly in Spain, and variable over Algeria, Italy, and the Mediterranean. Light from between West and North over the northern parts of Sweden and Russia. Subsequently veering to the South-Westward over France and the south of England.

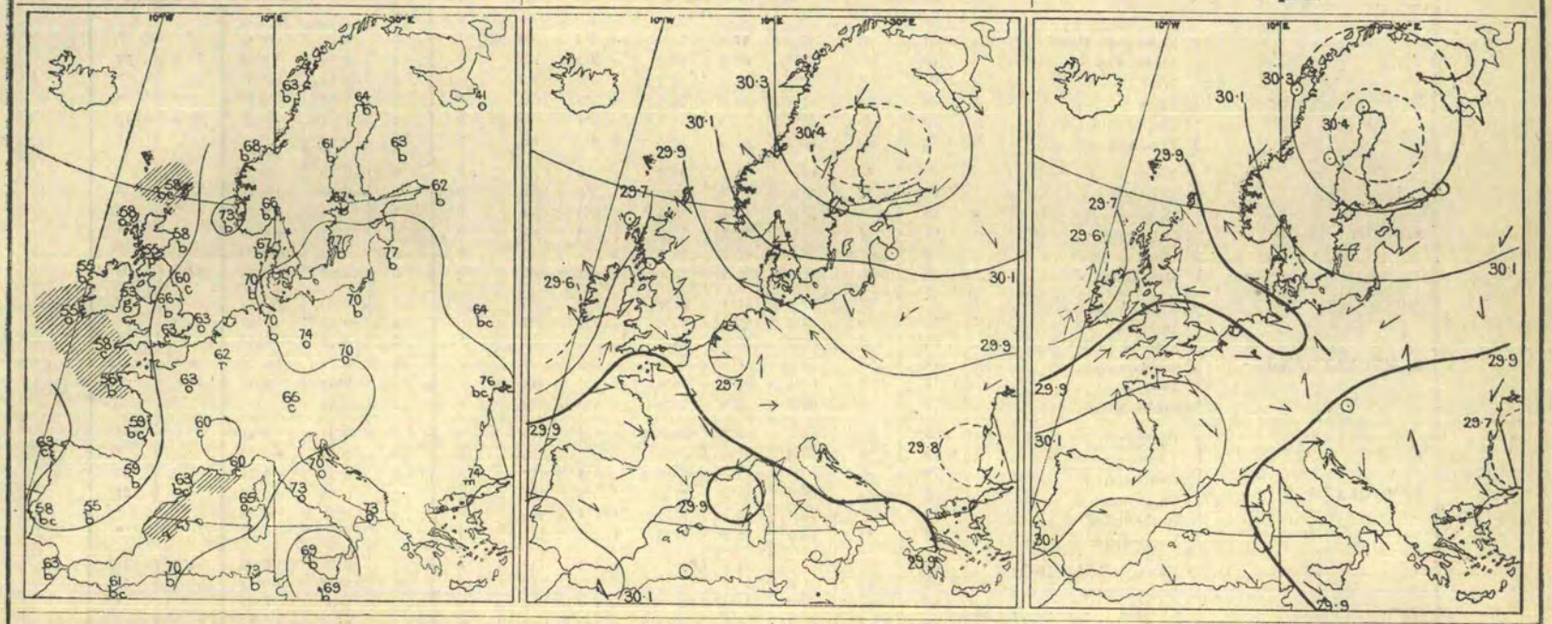
Barometer highest, 30·3 ins. and upwards, in a long and broad band, extending from Central Russia to the north of Scandinavia; high, 30·1 ins. and upwards off the south of Spain. Lowest, 29·6 ins. and less, in a large but shallow area lying over the extreme west and south-west of our Islands; 29·8 ins. and less, in another depression lying over Asia Minor. Small shallow disturbances appearing later in various parts of the United Kingdom.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 3rd June.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine generally, but rainy in Belgium, the east of France, and Northern Italy, and thundery in Scotland. Rain falling later at some of our western stations, and thunderstorms occurring in Germany.

Temperature highest, 75° and upwards, over North Germany and the Baltic provinces; high, 70° and upwards, over the Mediterranean and the south of Russia. Lowest, 40° or less, in the neighbourhood of the White Sea; 55° or less at many of our western and northern stations. Maximum readings over England and France considerably lower than those of previous day, but thermometer rising to 88° at Berlin.

Wind moderate to fresh from the South-Eastward in the west and extreme north of our Islands, and Easterly over the greater part of Russia and Northern Europe. South-Westerly over the east of England and the north of Italy, and North-Westerly over the central and southern parts of France, but light and variable in Spain and Algeria. Subsequently increasing to a strong gale from the Southward in the west of Ireland.

Barometer highest, 30·4 ins. and upwards, over Finland and the north of Sweden; high, 30·1 ins. and upwards, over Central Algeria, Morocco, and the south of Spain. Lowest, 29·6 ins. and less, in a depression lying off the south-west of Ireland; 29·7 ins. and less in a small secondary depression lying off the coast of Berwickshire, and another with similar readings over the Netherlands. Large shallow area with readings below 29·8 ins. over Bulgaria and Roumelia. Depression off south-west of Ireland subsequently moving northwards.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛ = a heavy gale; ⟹ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During this week barometric pressure was almost continuously high over Northern or Eastern Europe, and at times over Spain and the south-west of France also, while it was lowest over the western coasts of the British Islands, and the adjacent parts of the Atlantic. The wind has consequently been chiefly South-Westerly to Southerly over the United Kingdom, and has occasionally blown hard in the far west, as some well-marked depressions have moved northwards along the west coast of Ireland. The weather has been changeable in most districts, fair in the east and south-east, and occasionally very warm. On some occasions, however, when, in addition to the disturbances in the west, shallow local depressions appeared over the more eastern parts of our area, thunderstorms of great severity were experienced in almost all parts of the Kingdom, the rainfall being heavy in several localities, and the hailstones large. These conditions were especially prevalent on Sunday, 2nd June.

III.—DATA from which the SUMMARY on page 127 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	61	42	55·6	47·6	51·4	+ 2·7	66	0	3	0·21	−0·19	*	*
	Stornoway	65	43	57·7	46·6	51·8	+ 2·2	69	0	4	0·99	+0·33	32·3	27
	Wick	61	47	57·9	48·1	52·7	+ 3·2	75	0	6	0·78	+0·39	*	*
	Lairg ℒ	64	38	61·7	44·6	52·6	+ 3·9	74	0	5	0·54	−0·01	*	*
	Glencarron ℒ	70	40	61·3	47·3	54·9	+ 5·4	90	0	3	1·12†	−0·07	16·0	13
	Fort Augustus ℒ	71	39	63·1	46·9	54·5	+ 2·6	88	0	6	0·88†	?	*	*
1. SCOTLAND, E.	Nairn	68	43	64·6	48·1	55·9	+ 4·0	97	0	6	0·48	+0·08	*	*
	Aberdeen	63	47	58·0	48·3	52·9	+ 2·2	76	0	5	0·60	+0·18	38·7	33
	Braemar ℒ	68	38	59·4	46·4	52·5	+ 3·3	74	0	5	1·06	+0·55	17·2‡	14‡
	Ochtertyre ℒ	68	41	62·9	48·7	55·3	+ 3·3	93	0	6	1·63	+1·03	*	*
	Leith	69	41	62·9	47·3	54·6	+ 1·8	88	0	6	1·09	+0·69	*	*
	Marchmont ℒ	66	39	61·9	46·4	53·7	+ 2·7	82	0	6	0·95	+0·36	39·3	33
2. ENGLAND, N.E.	Alnwick Castle	67	41	62·1	47·1	54·2	+ 2·6	85	0	5	0·60	+0·12	*	*
	Durham	73	39	64·4	46·7	55·0	+ 2·3	91	0	5	0·33	−0·05	36·3	31
	Shields	68	43	62·0	47·4	54·3	+ 2·6	86	0	5	0·28	−0·12	*	*
	Scarborough ℳ	71	44	63·5	49·1	53·9	+ 3·2	97	0	5	0·71	+0·28	42·1‡	37‡
	York	78	45	67·1	49·9	58·0	+ 3·7	112	0	5	0·31	−0·12	47·8	42
	Spurn Head	72	47	63·0	49·9	56·1	+ 2·9	99	0	5	0·41	?	*	*
3. ENGLAND, E.	Hillington ℳ	85	45	68·7	49·0	58·3	+ 4·8	114	0	3	0·34	−0·11	69·5	61
	Yarmouth	70	46	62·4	51·3	56·5	+ 2·7	102	0	5	0·67	+0·24	*	*
	Geldeston	77	45	66·5	50·4	58·0	+ 3·3	112	0	4	0·26	−0·14	65·6	58
	Cambridge	83	44	68·3	48·7	57·9	+ 3·4	111	0	3	0·34	−0·13	64·9	57
	Rothamsted	80	45	66·1	49·0	57·0	+ 1·5	105	0	3	0·37	−0·13	*	*
	Ingatestone	79	43	67·5	48·8	57·6	+ 2·1	109	0	1	0·06	−0·36	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	83	42	68·1	50·3	58·7	+ 4·2	117	0	4	0·73	+0·23	51·0‡	45‡
	Loughborough	84	46	67·9	50·0	58·4	+ 3·1	115	0	3	0·63	+0·14	60·4‡	53‡
	Cheadle ℳ	75	44	62·7	48·0	54·9	+ 1·2	90	0	6	1·00	+0·41	*	*
	Churchstoke ℳ	72	44	61·4	47·2	55·3	+ 1·6	93	0	6	1·25	+0·78	55·6	49
	Hereford ℳ	72	45	64·2	49·0	56·1	+ 0·8	99	0	6	0·89	+0·41	*	*
	Cirencester	74	43	63·1	47·4	54·8	0·0	90	0	4	0·86	+0·36	50·3	44
	Oxford	78	47	64·6	50·4	57·2	+ 2·0	106	0	6	0·79	+0·34	55·5	49
5. ENGLAND, S.	London	82	46	68·7	51·1	59·4	+ 2·8	122	0	3	0·13	−0·30	62·5‡	56‡
	Strathfield Turgiss ℳ	79	47	65·7	50·0	57·4	+ 3·0	108	0	6	0·73	+0·33	*	*
	Dungeness	74	51	64·9	52·4	58·3	+ 3·0	114	0	1	0·13	−0·27	*	*
	Hastings (St. Leonard's)	78	50	64·0	52·6	58·0	+ 2·4	112	0	1	0·11	−0·29	68·9	62
	Southampton	73	48	64·3	51·5	57·5	+ 1·9	109	0	4	0·42	−0·03	64·0	57
	Hurst Castle	69	51	62·7	52·9	57·5	+ 2·2	109	0	5	0·23	−0·17	*	*
	Stowell ℳ	68	46	60·9	50·9	55·6	+ 1·9	95	0	4	0·54	?	46·8‡	42‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	67	42	60·8	50·3	55·2	+ 4·3	92	0	6	1·98†	+0·98	*	*
	Glasgow	65	46	60·0	49·7	54·5	+ 2·7	88	0	5	1·62	+1·04	22·7	19
	Ardrossan	65	47	58·4	50·3	54·1	+ 1·5	85	0	5	1·38	+0·87	*	*
	Glenlee ℒ	67	44	59·5	48·1	53·5	+ 0·7	81	0	7	1·32†	+0·67	*	*
	Douglas (Isle of Man)	62	48	57·0	49·8	53·2	+ 0·7	78	0	5	0·54	+0·07	49·1	43
7. ENGLAND, N.W.	Newton Reigny (Penrith)	77	43	61·6	47·5	54·1	+ 2·2	85	0	6	1·71	+1·24	41·2	35
	Barrow-in-Furness	70	49	60·3	50·6	55·2	+ 1·3	92	0	6	1·40	+0·94	*	*
	Stonyhurst	73	45	61·4	49·2	54·9	+ 1·0	90	0	6	3·21	+2·52	29·9	26
	Blackpool ℳ	74	46	65·1	49·1	56·6	+ 1·8	102	0	5	1·55	+1·07	43·4	38
	Manchester	76	46	64·0	50·1	56·6	+ 1·9	102	0	6	1·35	+0·75	*	*
	Liverpool Obsy (Bidston)	74	46	64·3	49·9	56·7	+ 1·9	103	0	6	1·30	+0·88	*	*
	Llandudno ℳ	68	48	62·8	50·3	56·2	+ 0·9	99	0	5	0·62	+0·22	31·2	27
	Holyhead	62	48	58·7	50·1	54·1	+ 0·2	85	0	6	0·62	+0·19	*	*
8. ENGLAND, S.W.	Llandovery	68	45	62·9	50·4	56·3	+ 1·9	100	0	7	1·25	+0·60	*	*
	Pembroke	59	45	55·6	49·0	52·1	− 2·5	71	0	5	0·79	+0·32	52·5	46
	Arlington (N. Devon)	68	43	59·0	47·3	52·6	− 1·9	74	0	6	1·88	+1·09	*	*
	Cullompton ℳ	69	44	63·0	49·4	55·3	− 0·2	93	0	5	0·49	−0·11	39·9	36
	Falmouth	62	48	59·6	49·6	54·3	− 0·7	86	0	6	0·92	+0·27	44·8	40
	Plymouth	65	50	63·4	51·7	57·2	+ 1·5	106	0	6	0·52	+0·04	40·4	36
	Prawle Point	61	45	57·1	48·0	52·3	− 1·8	72	0	4	0·14	?	*	*
9. IRELAND, N.	Malin Head	64	45	60·0	49·0	54·2	+ 2·4	85	0	5	0·89	?	*	*
	Londonderry	73	43	65·3	47·8	56·0	+ 2·8	98	0	3	0·14	−0·42	*	*
	Mullaghmore	62	47	58·6	48·9	53·5	− 1·1	81	0	7	1·54	+0·87	*	*
	Belmullet	61	46	57·3	49·4	53·1	+ 0·3	78	0	7	1·35	?	*	*
	Markree Castle	62	44	57·9	47·4	52·3	− 2·0	72	0	7	1·08	+0·56	29·2	25
	Brookeborough	64	43	59·4	46·6	52·6	− 1·7	74	0	6	1·11	?	*	*
	Armagh	63	40	60·5	46·8	53·2	− 0·7	78	0	6	0·47	0·00	36·1	31
	Donaghadee	61	47	58·9	49·9	54·1	+ 0·9	85	0	7	0·56	+0·07	*	*
	Edgeworthstown	64	41	59·3	45·3	51·9	− 0·9	69	0	7	1·35	+0·75	*	*
10. IRELAND, S.	Dublin	67	47	62·2	50·1	55·8	+ 1·4	97	0	6	0·37	−0·06	40·6	36
	Parsonstown	63	42	59·6	45·9	52·3	− 2·1	72	0	7	1·24	+0·72	36·4	32
	Kilkenny	62	43	58·3	46·6	52·1	− 2·1	71	0	7	1·21	+0·73	*	*
	Waterford	65	44	59·9	46·9	53·0	− 2·5	77	0	7	1·39	+0·86	*	*
	Roche's Point	60	48	56·3	49·3	52·6	− 3·1	74	0	7	2·46	+1·74	*	*
	Valencia	59	47	57·0	49·3	52·9	− 1·3	76	0	7	1·98	+1·26	32·1	28
	Killarney	60	44	57·4	45·2	50·9	− 3·0	62	0	7	2·73	?	*	*
	Foynes	60	43	58·3	47·4	52·5	− 1·4	74	0	7	0·71	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	60	48	58·7	50·6	54·4	− 0·8	87	0	4	0·50	+0·10	*	*
	Jersey	70	44	63·7	51·0	57·0	+ 0·8	105	0	3	0·35	−0·05	54·2	49

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ℒ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 23.] *Third Series.* WEEK ENDING MONDAY, 10TH JUNE, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number, TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 138.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	76	29	61·4	44·9	52·6	2 above.	74	+22	0	− 1	565	+145	514	+ 4
	1. SCOTLAND, EAST	74	37	63·7	45·2	53·9	1 above.	83	+10	0	− 1	665	+ 76	548	+ 5
	2. ENGLAND, N.E.	78	38	61·4	48·6	54·6	0 (average).	88	+11	0	− 1	653	+ 43	488	+ 6
	3. ENGLAND, EAST	80	46	64·8	51·0	57·4	1 above.	108	+18	0	0	806	+ 26	619	+112
	4. MIDLAND COUNTIES	80	45	66·9	50·5	58·1	2 above.	113	+23	0	− 1	838	+ 30	564	+ 60
	5. ENGLAND, SOUTH	83	47	68·4	54·0	60·7	4 above.	131	+35	0	0	910	+ 40	448	+ 75
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	73	39	64·4	47·1	55·2	2 above.	92	+15	0	− 1	735	+ 84	375	− 23
	7. ENGLAND, N.W.	76	37	64·4	49·9	56·7	1 above.	103	+21	0	0	742	+ 59	382	− 1
	8. ENGLAND, S.W.	81	43	66·3	51·5	58·4	2 above.	115	+27	0	0	842	− 22	321	+ 88
	9. IRELAND NORTH	75	38	62·2	46·9	54·0	1 below.	84	+ 7	0	0	771	+ 40	297	− 53
	10. IRELAND, SOUTH	76	37	64·0	47·4	55·2	1 below.	92	+ 8	0	0	896	+ 3	225	− 14
	— CHANNEL ISLANDS	70	52	61·8	54·5	57·9	1 above.	111	+19	0	0	983	+ 35	77	− 16

Rainfall.

	DISTRICTS. (See p. 138.)	For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.
			10ths of In.				Ins.	Ins.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	2	2	4 less.	114	+13	18·6	+0·5
	1. SCOTLAND, EAST	2	3	2 less.	90	+10	10·5	−2·2
	2. ENGLAND, N.E.	3	3	2 less.	84	+ 4	9·9	−0·6
	3. ENGLAND, EAST	4	18	13 more.	89	+ 7	11·1	+1·3
	4. MIDLAND COUNTIES	2	4	1 less.	82	+ 3	13·9	+2·5
	5. ENGLAND, SOUTH	4	6	2 more.	86	+ 9	10·7	−0·5
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	2	2	4 less.	97	+ 7	18·1	−1·2
	7. ENGLAND, N.W.	2	2	3 less.	90	+ 8	12·9	−1·2
	8. ENGLAND, S.W.	2	2	4 less.	85	− 2	15·0	−2·5
	9. IRELAND, NORTH	1	less than ½	6 less.	106	+ 8	15·6	+1·4
	10. IRELAND, SOUTH	1	less than ½	6 less.	96	+ 2	16·0	−0·9
	— CHANNEL ISLANDS	3	8	3 more.	93	− 1	10·9	−2·5

Bright Sunshine.

	DISTRICTS. (See p. 138.)	For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	54	44	453	−133	23	− 7
	1. SCOTLAND, EAST	63	52	545	−111	28	− 6
	2. ENGLAND, N.E.	53	45	502	− 78	26	− 4
	3. ENGLAND, EAST	34	30	532	−178	27	−10
	4. MIDLAND COUNTIES	40	35	482	−139	25	− 7
	5. ENGLAND, SOUTH	35	31	504	−149	26	− 7
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	70	60	572	− 41	29	− 3
	7. ENGLAND, N.W.	59	51	541	− 78	28	− 4
	8. ENGLAND, S.W.	55	49	632	− 79	32	− 5
	9. IRELAND, NORTH	71	61	492	−133	25	− 7
	10. IRELAND, SOUTH	70	61	607	− 85	31	− 5
	— CHANNEL ISLANDS	24	21	694	−149	36	− 7

General Remarks.

Weather has been generally fine and dry over Ireland, Scotland, and the western parts of England; over eastern, southern, and central England, however, the fine bright weather which prevailed during the earlier days of the period was succeeded by very severe thunderstorms and extremely heavy, but local, falls of rain. During the storm of the 6th the lightning was unusually vivid and frequent.

Temperature was very high during the earlier part of the week, but subsequently fell quickly and became low, especially over our southern and eastern districts. On the 6th, the maxima over central, southern, and south-western England varied from 80° to 83°, while in most other parts of the Kingdom readings ranging from 75° to 79° were recorded, but on the 10th the thermometer at many of our south-eastern and eastern stations did not exceed 52°. The lowest of the minima, which were registered on the 8th in Ireland and during the early morning of the 10th over Great Britain, ranged from 37° or 38° in most of the western and northern districts to 47° in "England, S.", and to 52° in the "Channel Islands". Over the central parts of northern Scotland the minima were much lower; at Lairg the sheltered thermometer fell to 29°. The average temperature for the week has again been rather above the mean in Scotland and in nearly all the English districts, while in Ireland a slight deficit is shown.

Rainfall has been greatly in excess of the mean in "England, E." and rather so in "England, S." and the "Channel Islands", but in all other districts it has been less.

Bright sunshine has been more prevalent than it was last week in most parts of the Kingdom, but less over southern, central, and eastern England, as well as in the "Channel Islands". The percentage of the possible amount of duration ranged from 44 to 60 in Scotland, and was as high as 61 in Ireland, but over England it ranged from 30 in the east and 31 in the south to 51 at the north-western stations. In the "Channel Islands" the percentage was only 21.

Barometer and Wind.—At the commencement of the period a depression lay off our north-western coasts and the wind over our Islands was light or moderate from the Southward. The conditions, however, were soon changed, the barometer rising quickly in the west and north, while it began to fall in the south and east; in the latter regions shallow depressions were formed, and towards the end of the period a trough of low pressure became established to the south-eastward and eastward of the United Kingdom. With this change in the distribution of pressure the wind shifted to between North and North-East, and, though light or moderate generally, it blew freshly or strongly in the south and south-east on the 10th, and on the Kentish coast attained the force of a strong gale.

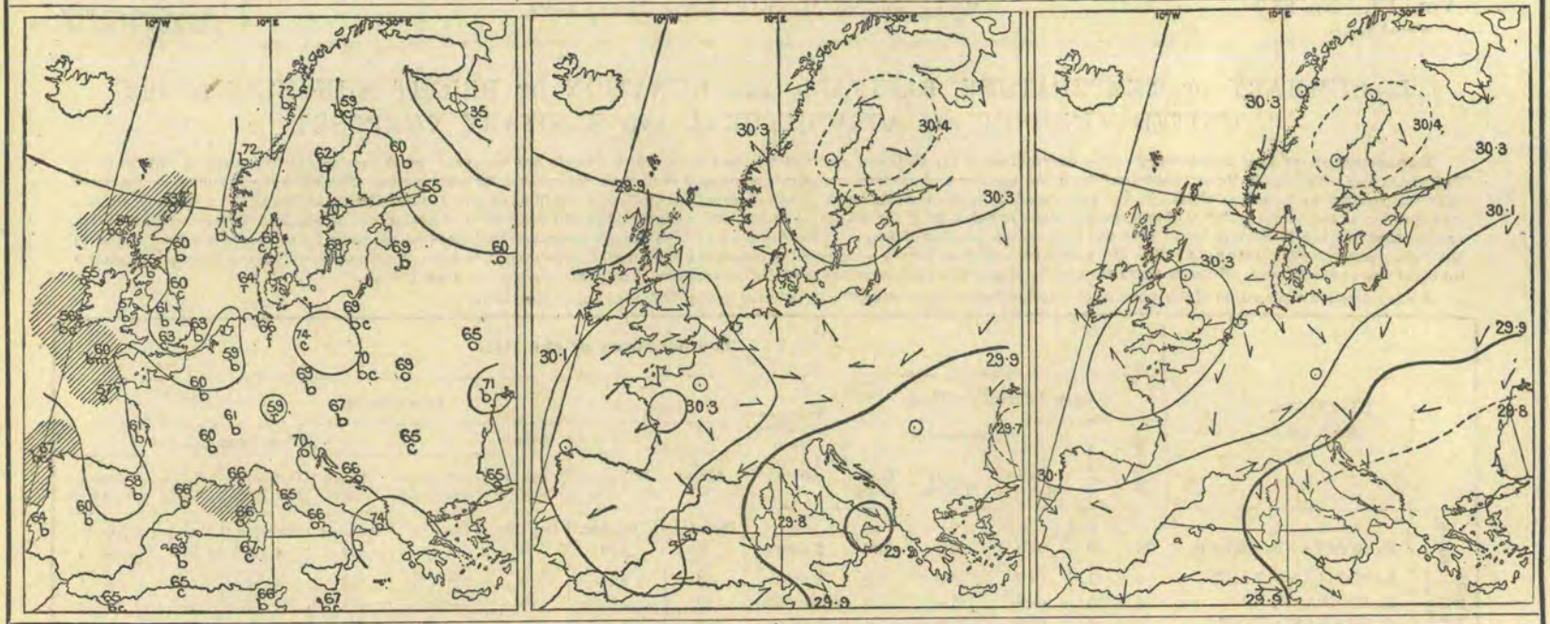
A 59034. 350.—6/89. Wt. 36. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 4th June.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine in nearly all parts of the Continent, but dull in Italy as well as at some of the English and Russian stations. Thunderstorms occurring later over the central parts of Germany and Algeria, with heavy rain (1·2 ins.) at Munich.

Temperature highest, 70° or a little above, in Norway, North Germany, France, and the south of Italy. Lowest, 40° or less, in the neighbourhood of the White Sea; 55° or less in some of the western and northern parts of the United Kingdom. Subsequently rising to 75° or a little above over the central parts of England and France to 80° or above at some of the Scandinavian, German, and Algerian stations, to 90° at Cagliari, to 93° at Laghouat, and to 95° at Palermo.

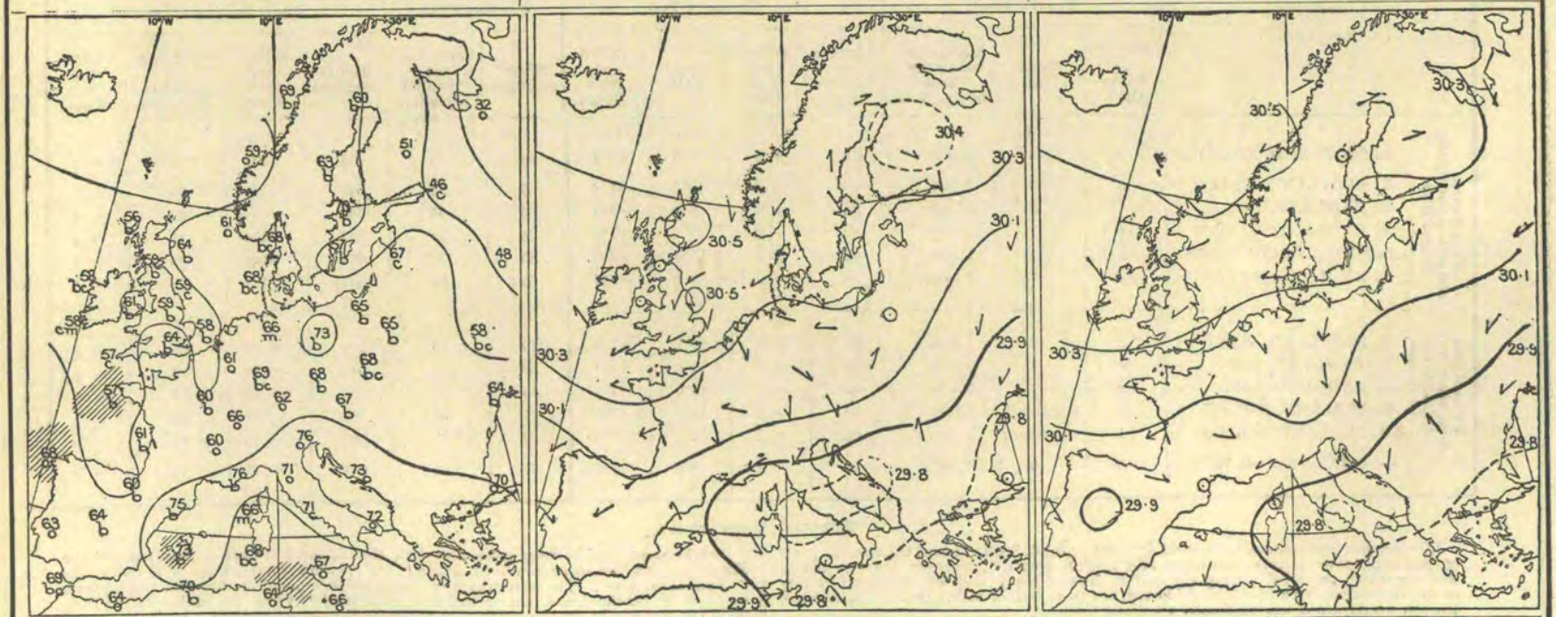
Wind Southerly or South-Westerly over the greater part of the United Kingdom; strong to a gale in force on our extreme west and north-west coasts. Light or moderate from the Eastward over Northern, Eastern, and Central Europe; variable over Italy, Algeria, and the Mediterranean. Wind moderating later in the west and north-west of our Islands.

Barometer highest, 30·4 ins. and upwards, over Finland and the north of Sweden; high, 30·3 ins. and upwards, over Central France. Lowest, 29·8 ins. and less, in a large depression over the Black Sea and its immediate neighbourhood, and also in a smaller depression lying over Central Italy. Another low pressure system, with readings below 29·9 ins., lying to the north-westward of our Islands. Anticyclone over France subsequently extending northward over the United Kingdom.

Wednesday, 5th June.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine generally, but dull over Central Russia and the west of Norway as well as over Italy and the Adriatic, with rain at Naples. Rain falling later at several of the Italian stations and thunderstorms occurring in the south of France as well as in some parts of Germany.

Temperature highest, 70° and upwards, over the southern parts of France and Austria and the north of Italy; lowest, 32° at Archangel, 50° or less over Central Russia. Subsequently rising to between 75° and 80° at many of the English and Continental stations and to 85° and upwards in the south of France and some parts of Germany and Austria, the highest readings of all being 99° at Gap and 91° at Croisette and Toulon.

Wind light and variable over the northern parts of the United Kingdom and Scandinavia as well as over Spain and Central Europe, but moderate from the North-Eastward over the Netherlands, France, Italy, the South of England and the greater part of Russia. Light from the Southward over Western Algeria and from the Westward in Tunis. North-Easterly wind freshening somewhat later over the Channel and Bay of Biscay.

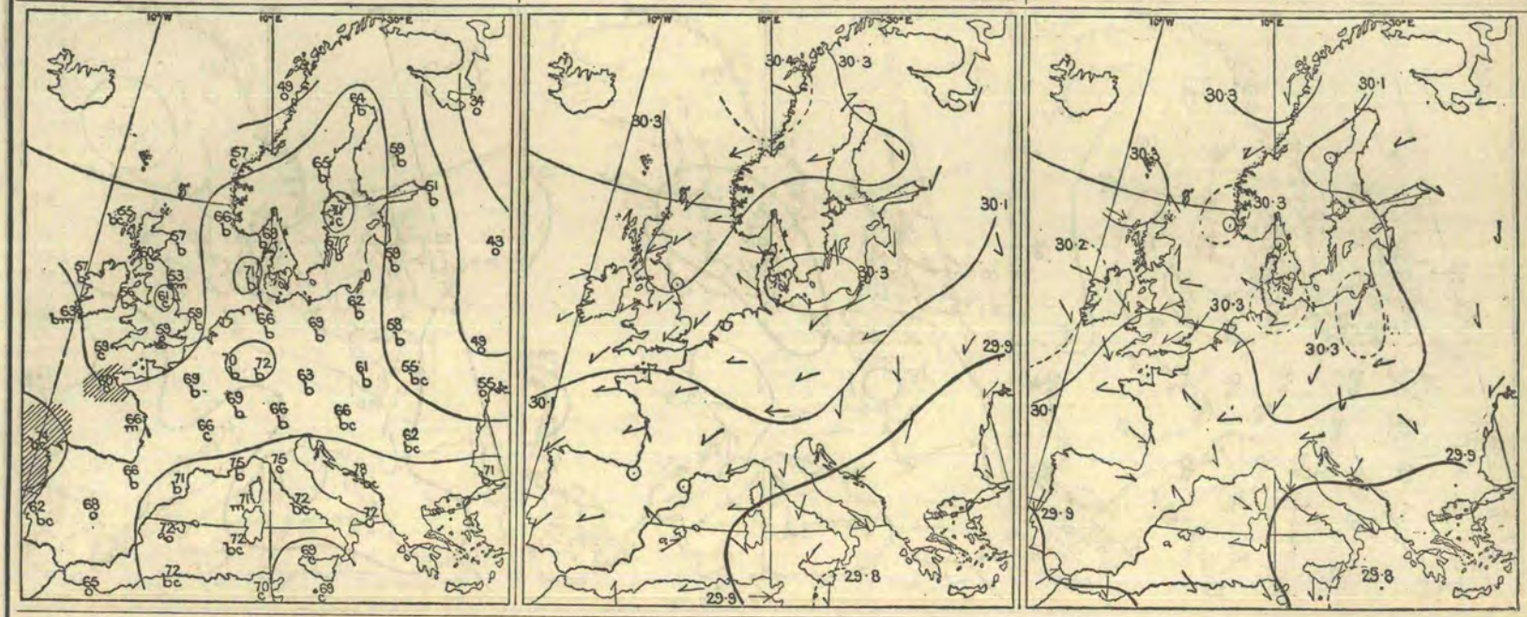
Barometer highest, 30·5 ins. and upwards, in the extreme north-east of Scotland; high, 30·4 ins. and upwards over nearly the whole of our Islands, the North Sea, and the west of Norway as well as in a separate area lying over Finland. Lowest, 29·8 ins. and less, in a somewhat complex depression lying over Central Italy, and also in a large area lying over the Black Sea, Asia Minor, Turkey, and the adjacent portions of the Mediterranean. General fall of barometer taking place later, but no important change occurring in distribution of pressure.

II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 6th June.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine generally, but dull at some of the English and Russian stations. Severe thunder storms with heavy falls of rain and hail occurring later over the south-east of England and the east of Scotland as well as at Clermont. Violent hailstorm occurring at Madrid.

Temperature highest, 75° or a little above, over the Adriatic and the extreme south of France; 70°, or a little above, at most of the Italian and Mediterranean stations, as well as in some parts of Denmark and Germany. Lowest, 35° or less, in the neighbourhood of the White Sea; 45° or less over Central Russia. Subsequently rising above 80° over Central England and many parts of the Continent, the highest readings of all being 97° at Cape Béarn, 93° at Florence, Biskra, and Laghouat, and 91° at Croisette and Cagliari.

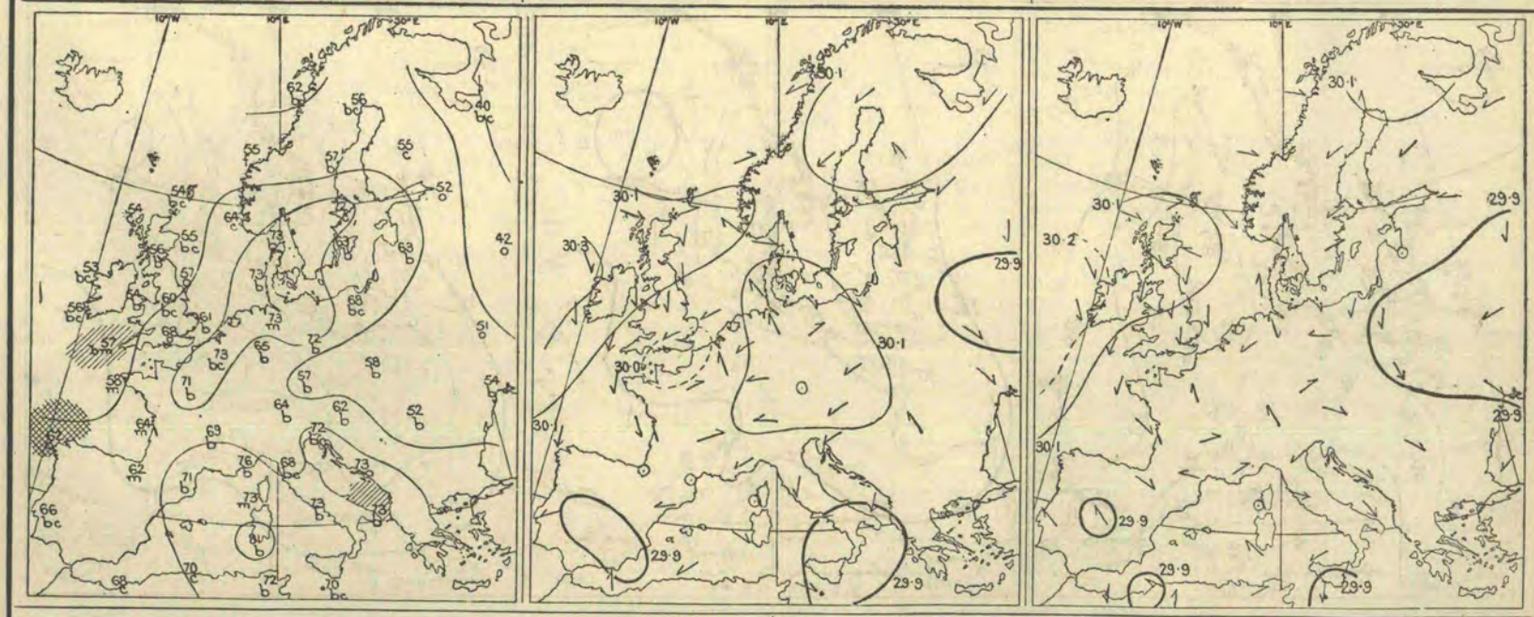
Wind light and variable over the Baltic, the south of Scandinavia, and the north of our Islands, but moderate from the Eastward or north-eastward over the greater part of Eastern, Central, and Southern Europe. Chiefly Westerly or South-Westerly in Lapland and Finland, but southerly in Algeria. Subsequently falling light and variable in France, but decided North-Westerly breeze setting in over the western parts of the United Kingdom.

Barometer highest, 30·4 ins. and upwards, in the north-west of Norway; high, 30·3 ins. and upwards, over all the more northern parts of Scandinavia and the North Sea as well as in a separate area lying over the southern parts of Sweden, Denmark, and the Baltic. Lowest, 29·8 ins. and less, in a small depression lying to the eastward of Malta; 29·9 ins. and less in a large area lying over the whole of south-eastern Europe, with the eastern parts of the Mediterranean and the south of Italy. Shallow area of low readings appearing later over the English Channel and the north of France.

Friday, 7th June.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine over the greater part of the Continent, but dull at some of the Russian stations, and thundery over Central England. Severe thunderstorms occurring during day in many parts of England and France, with heavy falls of rain and hail in places. Largest amounts of rain reported, 1·1 inch at Oxford, and 1·0 at Paris.

Temperature highest, 80° and upwards, in Sardinia; 70°, or a little above, over Denmark, the Adriatic, and the Mediterranean. Lowest, 45° or less, over Northern and Central Russia. Maximum readings over England lower than on previous day, but thermometer again rising above 80° at many of the Continental stations, the highest readings of all being 95° at Cape Béarn, 93° at Biskra and Laghouat, and 91° at Cagliari, and 90° at Berlin.

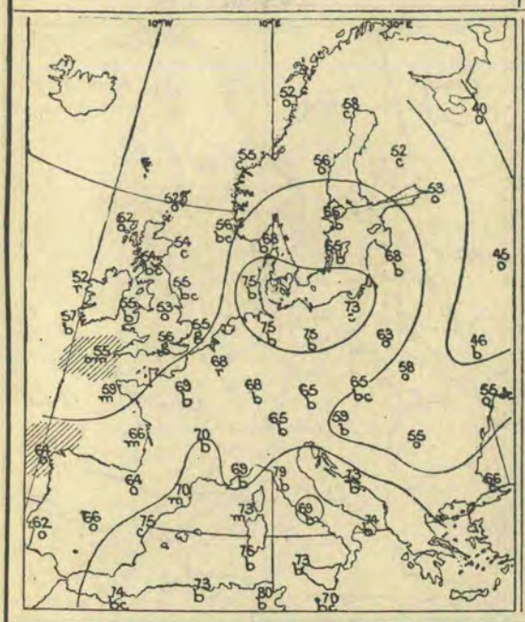
Wind light Westerly in the extreme north of our Islands, and Northerly (North-Westerly to North-Easterly) in most other parts of the United Kingdom, but very variable at the Continental stations. Northerly or North-Westerly breezes setting in later at some of the French and Austrian stations.

Barometer highest, 30·3 ins. and upwards, in an anticyclone lying off the west of Ireland; 30·2 ins. and upwards over Finland and the north of Sweden; 30·1 ins. and upwards over Denmark and Central Europe; 30·0 ins. and upwards over Eastern Algeria. Lowest, 29·9 ins. and less, in three large but shallow depressions lying respectively over Spain and Central Russia and to the southward of Italy; low, 30·0 ins. and less, in another depression lying over the south-east of England and the north of France. No important change occurring later.

II.—SUMMARY OF WEATHER OVER EUROPE.

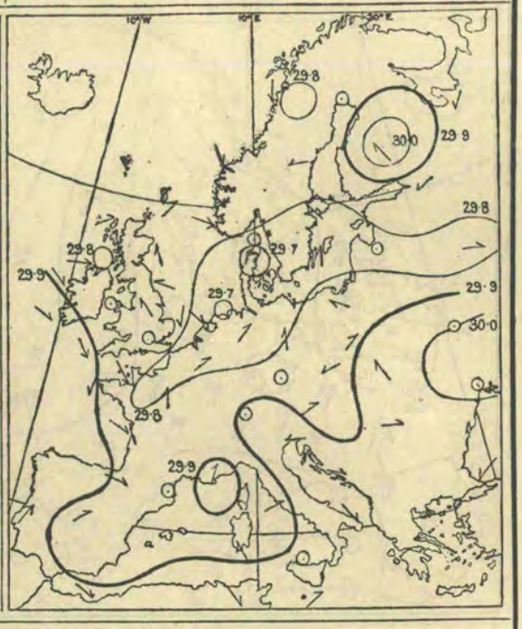
Saturday, 8th June.

Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**

Barometer and Wind. — **6 p.m.**



Weather fine and bright over the western parts of the United Kingdom, on the eastern shores of the North Sea, as well as over Central and South-Eastern Europe, cloudy or overcast elsewhere, with rain in several localities. Thunder and lightning later in many parts of France, with heavy local falls of rain in several places; showery in our Islands, except at some of the south-eastern stations. Densely overcast in London.

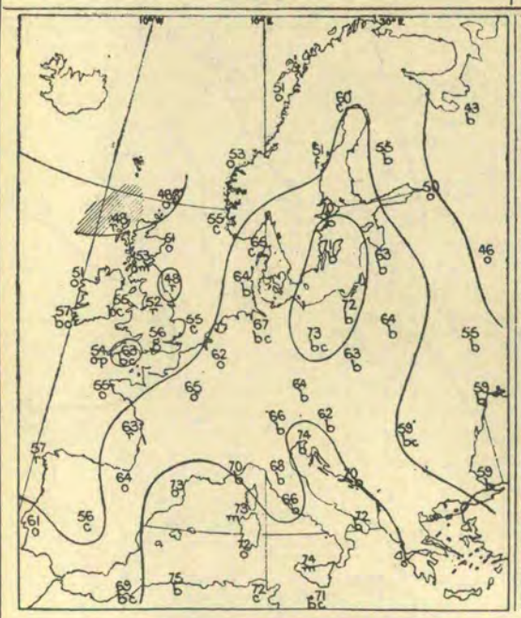
Temperature very irregularly distributed; still above 70° in the morning over Germany and at many of the Mediterranean stations; very little above 50° in many parts of the United Kingdom, Norway, and Finland, and below that value in several parts of Russia. Rising during day to upwards of 80° at several places in Southern and Central Europe, as well as at Fanö, but reaching 70° at only one station in the British Isles; maximum in London only 61°.

Wind chiefly Northerly over England and the Channel, extremely light and variable elsewhere; subsequently becoming very variable over the British Islands also.

Barometer falling very generally; distribution of pressure very irregular over Europe, but gradients slight; several *maxima* and *minima* shown. No material alteration later.

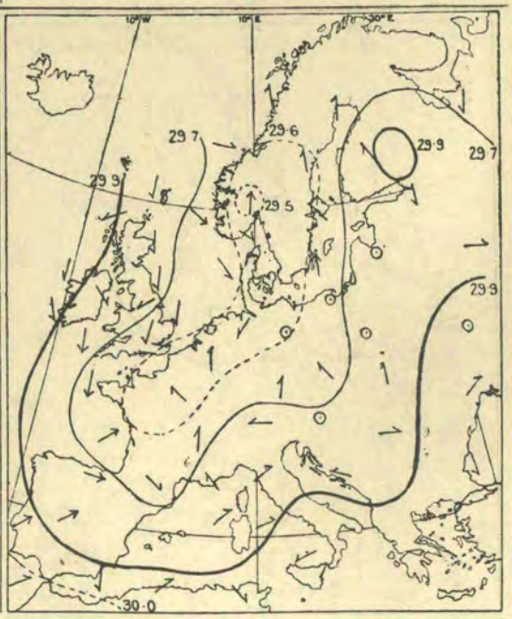
Sunday, 9th June.

Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**

Barometer and Wind. — **6 p.m.**



Weather fine over Eastern, Central, and South-Eastern Europe, cloudy and unsettled elsewhere, with rain at several stations and fog or haze in places. Very dull in London all day, and heavy rain falling in many places in France, England, and Holland. Thunder and lightning very prevalent over Central and Southern Europe.

Temperature continuing above 76° over Germany and south of Sweden, as well as at most of the Mediterranean stations; 79° at Barcelona; much lower (43° to 46°) over Northern and Central Russia, and below 50° in the extreme north and north-east of the British Islands. Rising to 80° and more at many of the Continental stations during the day, and 90° at Cuxhaven, but not exceeding 65° in the British Islands, and reaching that value at Hurst Castle only.

Wind chiefly Northerly over the United Kingdom, North-Westerly in Norway, light to moderate in most places; chiefly Westerly to Southerly on the Continent, but extremely variable. No important change later, except at Skudesnaes, where the North-Westerly wind increased to a fresh gale.

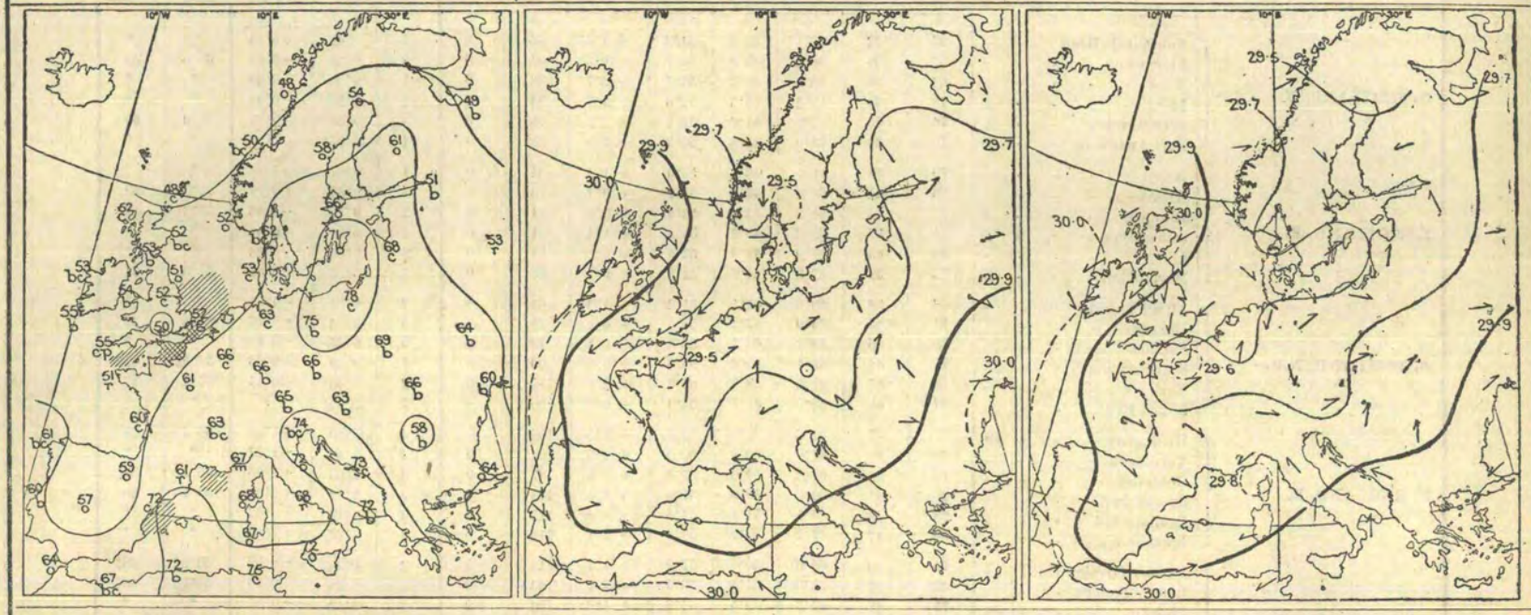
Barometer highest (29·9 ins. and more) over our extreme western districts, the south-west of Spain, South-eastern Europe, and Finland, exceeding 30·0 ins. over Finland and the northern shores of the Black Sea. Lowest over Scandinavia, the North Sea, the eastern parts of the Channel, and Normandy; gradients slight. Some recovery of pressure occurring in north-west and north later, and slight decrease at the Continental stations and in the south-east of England. Depression near Boulogne still shallow, but inclined to grow a little deeper.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 10th June.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather still fine and bright as a whole over Eastern, South-Eastern, and Central Europe, and in the west and north of our Islands, very unsettled elsewhere; squally and raining heavily over the extreme south-east of England and the north of France, showery at many other stations. A great deal of rain falling during the day in many parts of Western and Northern Europe, thunderstorms occurring in the south.

Temperature still above 70° in morning over North Germany and at several of the Mediterranean stations. Lower, but rising over South-Eastern Europe; very low over the United Kingdom and neighbourhood (49° to 51° over Central England). Rising to 88° at Berlin and to more than 80° in most parts of Austria, as well as in the south of Italy and over Algeria during the day, but not reaching 65° in any parts of our Islands, and rising very little above 50° over the home counties of England.

Wind North-Easterly throughout England, moderate in the North and North-West, strong and squally in the South, and blowing a strong gale (locally) over the Eastern parts of Kent. Fresh North-Westerly over the Bay of Biscay, variable from the Southward and and South-Westward over Central and Northern Europe (strong at Münster). Variable (cyclonic circulation), and moderate on the shores of the Mediterranean. Gale in South-East of England subsided slowly during the day.

Barometer highest (30·0 ins. and more) over the Atlantic (to the westward of our Islands and Portugal), and on the shores of the Black Sea; low in a long and irregular trough, stretching from Lapland over Sweden, the Sound, Holstein, and the Netherlands to Normandy, where a small "minimum" was found. Barometer rising in our Islands all day, and the low pressure area breaking up.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the first two days of this week anticyclonic conditions prevailed over the British Isles and their neighbourhood, and the weather was fine and very warm. On the 6th, however, local disturbances began to appear and to spread over Europe generally. Severe thunderstorms and heavy local rains set in, accompanied and followed by a decided fall of temperature, and during the latter part of the week a large low pressure system of irregular form lay completely over Europe, having in it several shallow minima.

III.—DATA from which the SUMMARY on page 133 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	62	42	57·1	46·3	51·3	+ 1·5	65	0	1	0·01	−0·44	*	*
	Stornoway	67	34	58·4	43·9	50·7	− 0·3	61	0	3	0·24	−0·43	60·0	49
	Wick	68	36	62·9	45·6	53·7	+ 2·7	82	0	1	0·01	−0·39	*	*
	Lairg ℌ	72	29	63·1	43·5	52·6	+ 2·7	74	0	2	0·10	−0·48	*	*
	Glencarron ℌ	74	35	62·8	44·7	53·1	+ 2·2	78	0	4	0·60†	−0·65	48·0	39
	Fort Augustus ℌ	76	34	63·9	45·3	54·0	+ 0·5	84	0	1	0·06†	?	*	*
1. SCOTLAND, E.	Nairn	70	38	65·3	46·1	55·0	+ 1·8	91	0	1	0·01	−0·41	*	*
	Aberdeen	66	41	60·4	46·3	52·9	+ 0·4	76	0	3	0·52	+0·10	71·3	59
	Braemar ℌ	71	38	64·7	43·7	53·5	+ 3·0	81	0	2	0·14	−0·44	56·3‡	47‡
	Ochtertyre ℌ	74	37	68·0	43·6	55·0	+ 1·5	91	0	2	0·31	−0·34	*	*
	Leith	70	43	61·9	47·0	53·9	− 0·2	83	0	2	0·60	+0·18	*	*
	Marchmont ℌ	72	38	62·0	44·7	52·8	+ 0·1	76	0	3	0·25	−0·35	61·0	51
2. ENGLAND, N.E.	Alnwick Castle	66	38	58·3	45·1	51·2	− 1·9	64	0	2	0·37	−0·10	*	*
	Durham	71	45	63·0	47·2	54·6	+ 0·2	88	0	3	0·32	−0·16	49·4	42
	Shields	70	46	59·3	48·1	53·3	+ 0·1	79	0	2	0·23	−0·17	*	*
	Scarborough ℳ	71	48	60·1	50·2	54·8	+ 0·9	90	0	4	0·19	−0·26	54·5‡	47‡
	York	78	47	68·6	49·7	58·6	+ 2·7	116	0	2	0·35	−0·15	55·1	47
	Spurn Head	67	49	59·0	51·1	54·8	+ 0·2	90	0	3	0·05	?	*	*
3. ENGLAND, E.	Hillington ℳ	78	47	64·6	49·9	56·7	+ 1·5	103	0	4	1·89	+1·40	33·7	29
	Yarmouth	66	50	61·0	52·3	56·4	+ 0·9	101	0	4	1·82	+1·37	*	*
	Geldeston	75	46	64·8	50·8	57·3	+ 0·9	107	0	3	1·63	+1·23	35·1	31
	Cambridge	79	47	66·0	50·9	57·9	+ 1·5	111	0	4	2·52	+2·00	34·1	30
	Rothamsted	78	48	65·1	51·4	57·8	+ 0·4	111	0	4	1·14	+0·62	*	*
	Ingatestone	80	47	67·1	50·9	58·5	+ 1·1	116	0	3	1·62	+1·15	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	74	49	66·6	50·3	57·9	+ 1·7	111	0	2	0·24	−0·32	43·6‡	38‡
	Loughborough	80	48	68·9	51·3	59·5	+ 2·1	123	0	3	0·44	−0·10	38·1‡	33‡
	Cheadle ℳ	75	47	65·3	49·5	56·9	+ 1·6	104	0	3	0·12	−0·57	*	*
	Churchstoke ℳ	76	45	67·0	48·3	57·0	+ 1·6	105	0	2	0·18	−0·31	44·3	38
	Hereford ℳ	74	48	68·4	51·2	59·2	+ 2·5	120	0	2	0·17	−0·32	*	*
	Cirencester	74	47	65·6	51·3	58·0	+ 1·8	112	0	2	0·29	−0·26	38·4	34
	Oxford	77	48	66·4	51·7	58·5	+ 1·6	116	0	3	1·45	+0·95	35·4	31
5. ENGLAND, S.	London	83	49	69·6	53·6	61·0	+ 2·7	133	0	4	1·95	+1·48	30·0‡	27‡
	Strathfield Turgiss ℳ	79	47	68·2	52·7	59·9	+ 4·0	125	0	5	0·59	+0·15	*	*
	Dungeness	72	50	67·4	54·3	60·4	+ 3·7	129	0	4	0·39	−0·01	*	*
	Hastings (St. Leonard's)	80	51	68·2	55·2	61·3	+ 4·6	135	0	4	0·41	+0·01	43·0	38
	Southampton	82	49	70·4	54·7	62·0	+ 5·1	140	0	4	0·28	−0·18	38·0	34
	Hurst Castle	78	52	68·6	55·1	61·4	+ 4·6	136	0	3	0·12	−0·33	*	*
	Stowell ℳ	76	48	66·2	52·5	58·9	+ 3·5	118	0	5	0·52	?	27·8‡	25‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	73	41	65·9	47·7	56·2	+ 3·5	99	0	?1	?0·15†	?−0·97	*	*
	Glasgow	69	45	65·0	48·2	56·0	+ 2·5	98	0	1	0·16	−0·46	64·2	54
	Ardrossan	73	44	62·4	48·3	54·9	+ 1·0	90	0	1	0·14	−0·41	*	*
	Glenlee ℌ	73	39	65·4	44·0	54·0	+ 0·6	84	0	2	0·32†	−0·38	*	*
	Douglas (Isle of Man)	70	42	63·1	47·4	54·7	+ 1·0	89	0	3	0·16	−0·33	75·7	65
7. ENGLAND, N.W.	Newton Reigny (Penrith)	75	37	64·9	44·5	54·1	+ 0·5	85	0	2	0·04	−0·45	60·0	51
	Barrow-in-Furness	71	45	63·4	51·1	56·8	+ 1·4	104	0	2	0·60	+0·10	*	*
	Stonyhurst	75	47	67·2	50·2	58·1	+ 3·1	113	0	2	0·04	−0·70	63·8	55
	Blackpool ℳ	76	46	66·6	50·0	57·7	+ 1·5	110	0	2	0·20	−0·30	61·7	53
	Manchester	76	49	68·3	50·9	59·0	+ 2·8	119	0	1	0·08	−0·60	*	*
	Liverpool Obsʳ (Bidston)	71	49	64·0	51·6	57·4	+ 1·4	108	0	2	0·16	−0·29	*	*
	Llandudno ℳ	68	48	61·9	50·6	55·9	− 0·7	97	0	1	0·30	−0·12	52·1	45
	Holyhead	62	48	58·6	50·4	54·2	− 1·0	85	0	2	0·09	−0·37	*	*
8. ENGLAND, S.W.	Llandovery	78	43	70·7	48·9	59·4	+ 3·3	122	0	2	0·59	−0·09	*	*
	Pembroke	66	49	60·3	51·0	55·3	− 0·4	93	0	1	0·21	−0·27	85·9	75
	Arlington (N. Devon)	73	44	66·0	50·6	57·8	+ 2·0	111	0	2	0·15	−0·70	*	*
	Cullompton ℳ	77	44	68·2	52·0	59·5	+ 2·9	123	0	2	0·04	−0·53	42·1	37
	Falmouth	70	49	62·9	51·6	56·9	+ 0·7	104	0	2	0·09	−0·58	51·6	46
	Plymouth	81	51	69·9	55·5	62·2	+ 5·3	141	0	3	0·25	−0·23	41·1	37
	Prawle Point	74	46	65·9	51·0	57·9	+ 2·7	111	0	1	0·10	?	*	*
9. IRELAND, N.	Malin Head	63	49	58·4	49·4	53·6	+ 0·2	81	0	1	0·01	?	*	*
	Londonderry	75	45	67·3	47·2	56·6	+ 2·1	102	0	2	0·06	−0·52	*	*
	Mullaghmore	64	45	60·0	48·1	53·6	− 2·1	81	0	1	0·07	−0·63	*	*
	Belmullet	64	47	58·9	49·7	54·0	− 0·1	84	0	2	0·06	?	*	*
	Markree Castle	67	38	60·9	43·5	51·6	− 3·9	67	0	1	0·02	−0·60	72·0	62
	Brookeborough	72	38	64·0	44·6	53·6	− 1·9	81	0	1	0·04	?	*	*
	Armagh	72	39	64·1	45·4	54·1	− 1·3	85	0	1	0·02	−0·46	69·4	59
	Donaghadee	70	49	61·6	50·7	55·8	+ 1·2	97	0	1	0·05	−0·43	*	*
	Edgeworthstown	71	39	64·6	43·9	53·5	− 1·0	81	0	1	0·04	−0·64	*	*
10. IRELAND, S.	Dublin	71	44	64·9	48·9	56·3	+ 0·8	100	0	2	0·05	−0·40	78·2	67
	Parsonstown	72	38	64·9	45·1	54·7	− 0·8	89	0	0	—	−0·54	58·6	51
	Kilkenny	73	40	64·7	46·6	55·0	− 0·5	91	0	1	0·02	−0·48	*	*
	Waterford	76	46	67·4	47·7	56·9	+ 0·3	104	0	1	0·04	−0·53	*	*
	Roche's Point	70	47	63·4	49·7	56·1	− 0·9	99	0	1	0·05	−0·70	*	*
	Valencia	65	47	60·7	49·3	54·6	− 0·5	88	0	1	0·02	−0·75	73·5	64
	Killarney	68	37	63·1	45·1	53·5	− 1·9	81	0	1	0·05	?	*	*
	Foynes	69	43	63·0	46·8	54·3	− 0·8	86	0	1	0·03	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	62	52	58·6	53·1	55·7	− 0·5	96	0	2	0·03	−0·39	*	*
	Jersey	70	52	65·0	55·9	60·1	+ 2·9	127	0	3	1·46	+1·05	23·6	21

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ℌ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 24.] *Third Series.* WEEK ENDING MONDAY, 17TH JUNE, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861-80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866-85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881-85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 144.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	73	35	61·3	46·9	53·6	1 above.	81	+24	0	0	646	+176	514	+ 4
	1. SCOTLAND, EAST	78	37	66·7	47·4	56·4	2 above.	101	+22	0	0	766	+101	548	+ 5
	2. ENGLAND, N.E.	74	40	66·4	49·4	57·3	2 above.	107	+22	0	0	760	+ 67	488	+ 6
	3. ENGLAND, EAST	73	43	65·7	49·9	57·2	1 below.	106	+ 9	0	0	912	+ 42	619	+112
	4. MIDLAND COUNTIES	76	41	68·1	47·7	57·2	0 (average).	106	+10	0	0	944	+ 43	564	+ 60
	5. ENGLAND, SOUTH	76	45	65·2	51·7	58·0	0 (average).	112	+ 9	0	0	1022	+ 53	448	+ 75
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	72	33	62·9	47·5	54·7	0 (average).	89	+ 6	0	0	824	+ 93	375	− 23
	7. ENGLAND, N.W.	71	33	63·9	48·5	55·7	1 below.	96	+ 7	0	0	838	+ 68	382	− 1
	8. ENGLAND, S.W.	81	41	65·0	49·5	56·8	1 below.	104	+ 9	0	0	946	− 11	321	+ 88
	9. IRELAND NORTH	74	38	63·0	48·0	55·0	1 below.	91	+ 6	0	0	862	+ 50	297	− 53
	10. IRELAND, SOUTH	74	37	64·3	48·2	55·7	1 below.	96	+ 6	0	0	992	+ 9	225	− 14
	— CHANNEL ISLANDS	71	45	63·5	52·4	57·6	0 (average).	109	+11	0	0	1092	+ 47	77	− 16

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 144.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	4	3	3 less.	118	+14	18·9	+0·3	19	15	472	−157	23	− 7
	1. SCOTLAND, EAST	2	1	5 less.	92	+ 8	10·6	−2·6	58	48	603	− 90	29	− 5
	2. ENGLAND, N.E.	1	less than ½	5 less.	85	+ 2	9·9	−1·1	50	42	552	− 69	27	− 3
	3. ENGLAND, EAST	1	less than ½	5 less.	90	+ 5	11·1	+0·8	44	38	576	−181	28	− 9
	4. MIDLAND COUNTIES	1	less than ½	6 less.	83	0	13·9	+1·9	43	37	525	−141	25	− 7
	5. ENGLAND, SOUTH	2	1	4 less.	88	+ 8	10·8	−0·8	35	31	539	−162	26	− 8
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	3	2	5 less.	100	+ 7	18·3	−1·6	55	46	627	− 30	30	− 2
	7. ENGLAND, N.W.	1	1	5 less.	91	+ 6	13·0	−1·7	57	49	598	− 67	29	− 3
	8. ENGLAND, S.W.	2	1	5 less.	87	− 4	15·1	−3·1	45	40	677	− 92	33	− 4
	9. IRELAND, NORTH	3	3	3 less.	109	+ 7	15·9	+1·1	38	32	530	−129	26	− 6
	10. IRELAND, SOUTH	3	2	4 less.	99	+ 1	16·2	−1·3	50	43	657	− 77	32	− 3
	— CHANNEL ISLANDS	2	1	4 less.	95	− 3	11·0	−2·9	56	50	750	−157	36	− 8

General Remarks.

Weather has been fair and dry with a considerable amount of sunshine in most parts of the Kingdom, but in the extreme north of Scotland and in the south-east of England the sky has been frequently cloudy or overcast, although little rain has fallen.

Temperature has been rather above the mean in Scotland and the north-east of England, but in the other districts it has either been 1° below or about equal to the normal value. The highest of the maxima, which were generally recorded towards the close of the period, ranged from 71° in "England, N.W." and the "Channel Islands" to 78° in "Scotland, E." and to 81° in "England, S.W." At the commencement of the week the maxima over England and Ireland were very low; in many places the thermometer did not rise to 60°. The lowest of the minima were registered on the 11th, and varied from 33° to 37° in Scotland, from 37° to 38° in Ireland, and from 33° to 45° over England.

Rainfall has been much less than the mean in all districts; over England and the east of Scotland the fall has been extremely slight.

Bright sunshine has been less prevalent than it was last week in most places, especially in Ireland and the north of Scotland. The percentage of the possible duration ranged from 15 in "Scotland, N." and 31 in "England, S." to 48 in "Scotland, E.", 49 in "England, N.W.", and to 50 in the "Channel Islands".

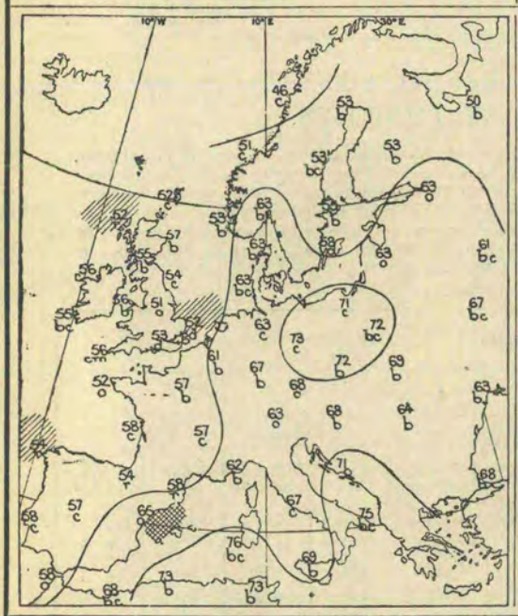
Barometer and Wind.—During the greater part of the period the changes in barometric pressure were slight and irregular; some rather large, but shallow, depressions (moving in a northerly direction) skirted our western coasts, while a few local irregularities appeared in different parts of the Kingdom, chiefly in the south and south-east. Towards the end of the week, however, a general and steady rise of the mercury set in, and an anticyclone covered nearly the whole of our Islands. Light or moderate breezes from between South and West were most prevalent in the west and north, while in the east and south, variable airs, and subsequently light North-Easterly breezes were experienced.

A 59139. 350.—6/89. Wt. 36. E. & S.

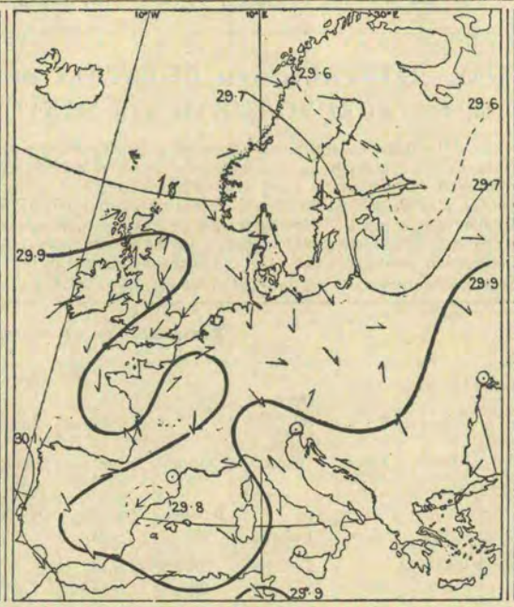
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 11th June.

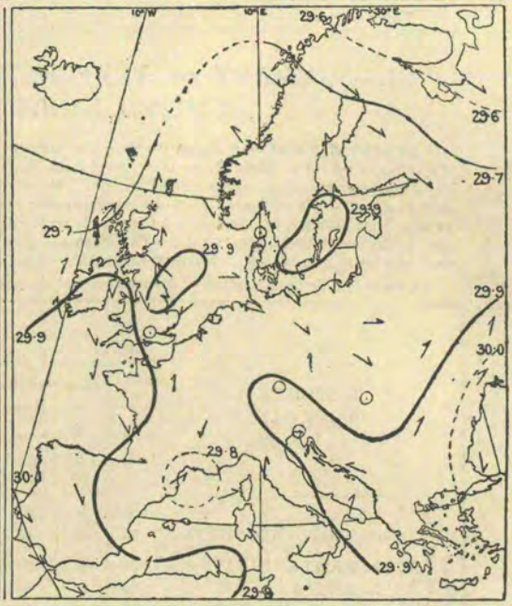
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine over Northern, Eastern, and many parts of Central and Southern Europe, less fair elsewhere; dull and somewhat rainy in the south-eastern parts of the British Islands, and very generally rainy in the north-west. Very little rain at our south-eastern stations later, but heavy falls occurring in the south of France, in Austria, and at some stations in Germany. Thunderstorms very prevalent over Southern and Central Europe.

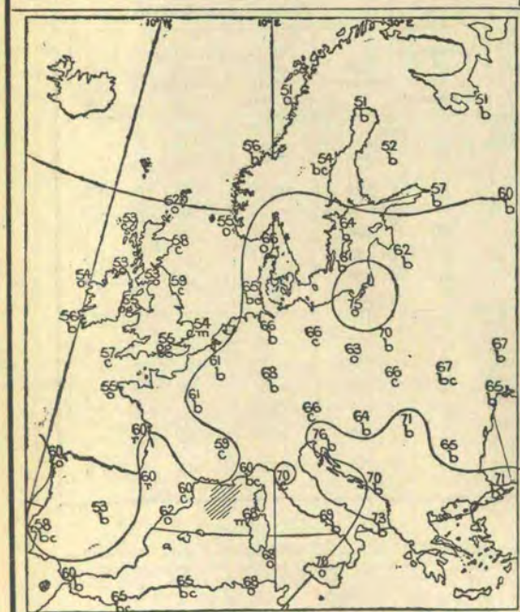
Temperature low generally except over some parts of Central and Southern Europe; morning readings exceeding 70° in the latter regions, but below 50° in the far north and at some stations in central England. Daily maxima exceeding 80° in the far south and in some parts of Austria, but falling short of that value in Germany, not touching 70° in the British Islands, and below 60° at several stations.

Wind very variable; North-Westerly over Finland and the Baltic and also in Spain, Westerly in the north of Scandinavia, South-Westerly to Southerly in the west and north of the British Islands, Northerly over England and the Channel; not of much strength anywhere, and becoming variable at the English stations later.

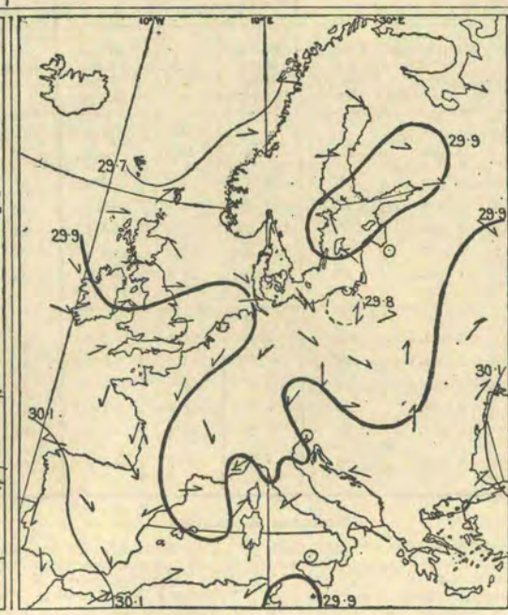
Barometer highest, 30·0 ins. and more, over the western parts of the Spanish Peninsula and off the extreme south-west of Ireland, as well as over the extreme south-east of Europe; lowest, 29·6 ins. and less, in Lapland and Finland. Pressure very irregularly distributed elsewhere; disturbance noticed in the north of France and south-east of England on Monday now filling up.

Wednesday, 12th June.

Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**

Weather much finer than of late over the United Kingdom, but still cloudy and gloomy at several stations, unsettled over Germany and the south-west of France (where rain prevailed), fine elsewhere. Much rain again in the southern parts of France, the north of Italy, and some parts of Austria, but less thundery than of late. No rain at the British and Irish stations.

Temperature inclined to rise over the United Kingdom, but slightly lower on the Continent than on Tuesday. Daily maxima exceeding 70° at our north midland stations, but not reaching 65° in London, and touching 80° at very few of the Continental stations.

Wind chiefly South-Westerly or Westerly over the British Islands, Southerly in the south of Sweden, and North-Westerly over Spain and the Bay of Biscay, but very variable elsewhere; light in force generally. Southerly wind dying out in the south of Sweden later.

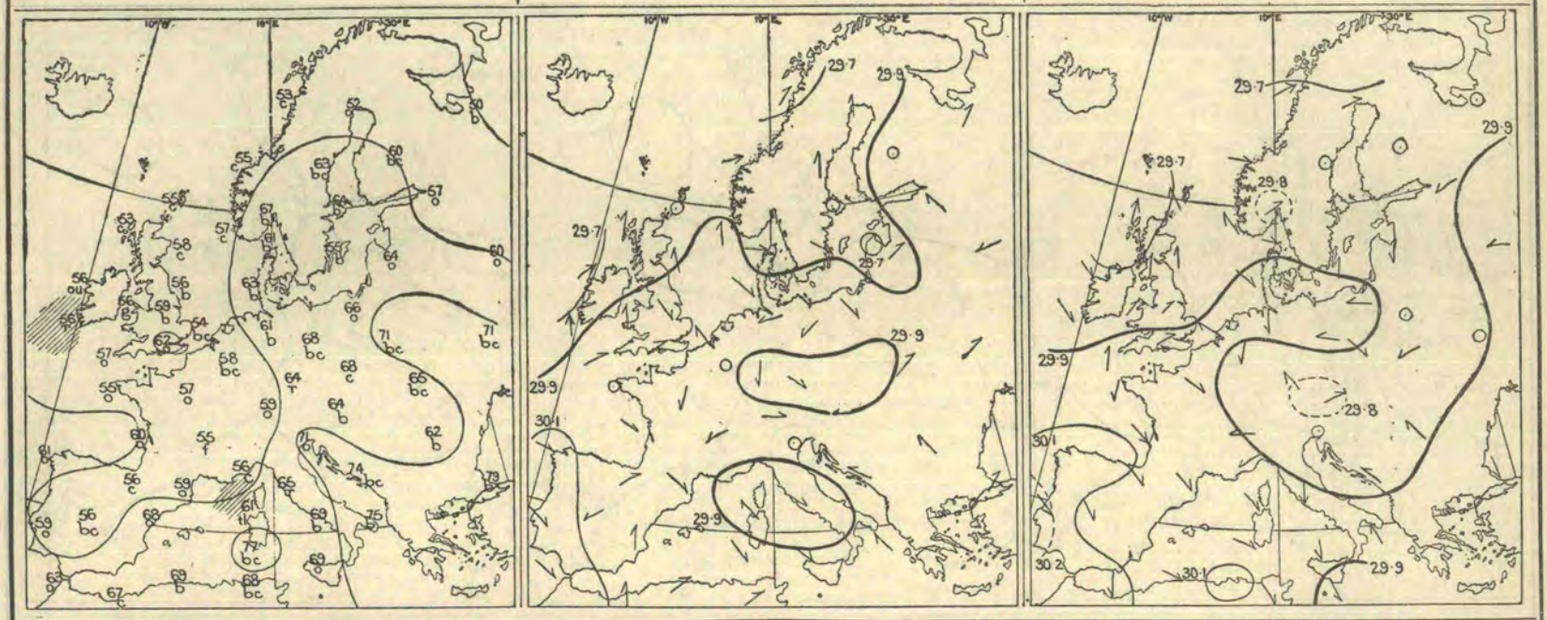
Barometer highest, 30·0 ins. to 30·2 ins., over South-Western Europe, and exceeding 30·0 ins. over Greece, Turkey, and Southern Russia; rising decidedly over Finland and the Baltic, where many of the readings exceeded 29·9 ins. Lowest, about 29·7 ins., off the west of Norway and in the Farö Islands. Readings irregular over Southern and Central Europe, but gradients very slight. Barometer continuing to rise over Finland during day; little change elsewhere.

II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 13th June.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather becoming dull and unsettled again in the west of our Islands, with rain at Valencia; dull over England, with fog in the south-east; dull and rainy over the Baltic Provinces, the south-east of France, and north of Italy and Corsica; fair as a whole over the remainder of the Continent. Much rain in the south of France, Switzerland, the north of Italy and east of Germany later; thunderstorms in the south and east of France.

Temperature fallen a little over southern Europe, not changed very decidedly elsewhere. Morning readings still exceeding 70° at a few of the extreme southern stations, and as high as 79° at Constantinople, 77° at Cagliari, and 75° at Brindisi; very little above 50° over Northern Europe, and many parts of British Isles. Daily maxima exceeding 70° in many parts of Great Britain, and exceeding 80° at a few German and Austrian stations, and in the south of Italy.

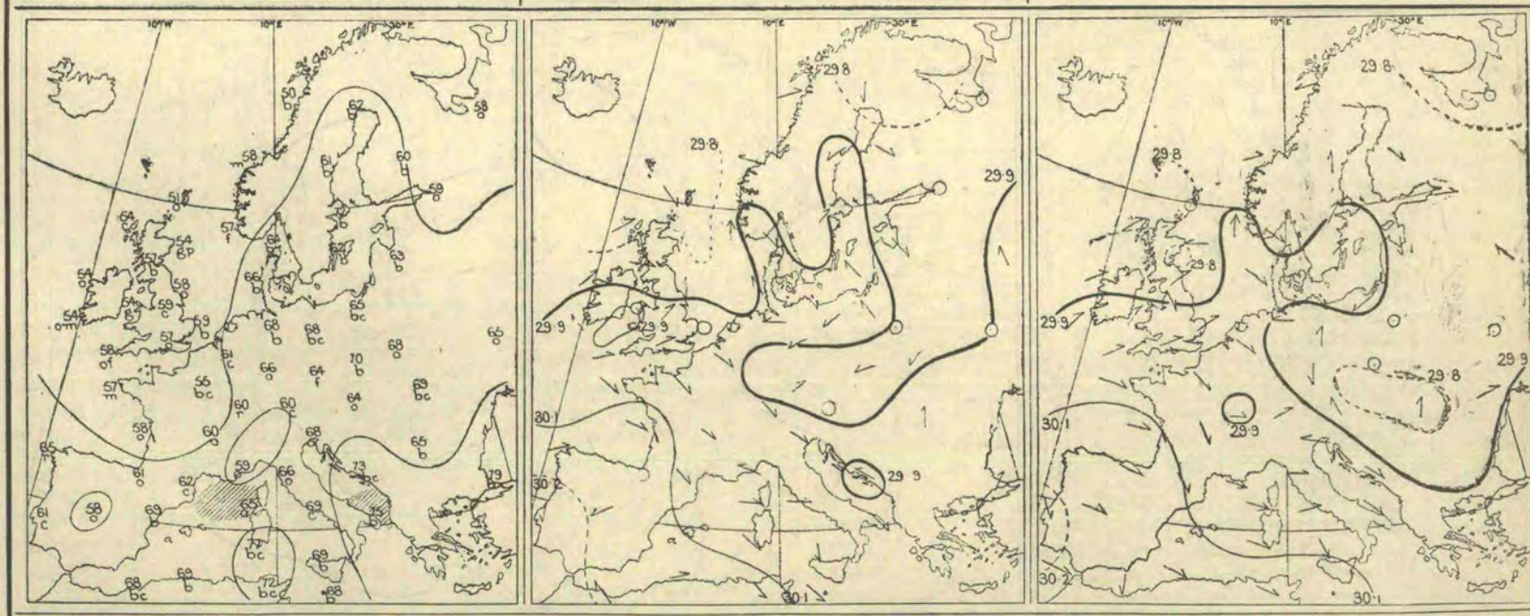
Wind becoming southerly over the United Kingdom and Scandinavia, and increasing in force in the west, Northerly in the west of France, North-Westerly over Spain. Cyclonic circulation of light winds over the Baltic Provinces and Gulf of Finland, another over the Mediterranean, but force light. Wind subsequently shifting to North-West in Ireland and falling light, and the cyclonic circulations mentioned above breaking up.

Barometer highest, 30·2 ins. to 30·0 ins., over Spain and west of France, and exceeding 30·0 ins. over Central and Southern Russia. Small anticyclone which formed over Finland on previous day now dispersed. Lowest, 29·7 ins. and less, off the west of Ireland, and in a small depression near Riga; 29·9 ins. and less over Italy and the Riviera. Depressions filling up later.

Friday, 14th June.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather becoming unsettled over the British Islands generally, as well as in France, Spain, and many parts of Germany. Very gloomy in many places; foggy and rainy locally—thunder in places; clear in many parts of Russia, Turkey, and Algeria. Showers later in many localities, both in the British Islands and on the Continent, thunder in some places.

Temperature not changing much; still rather low generally. Morning readings exceeding 70° on the southern and eastern shores of the Mediterranean only, and not at many stations there; below 60° all over North-Western Europe and in the Riviera. Daily maxima exceeding 80° in some parts of Algeria, Austria, and Eastern Germany, and at Cagliari, and just touching 70° over our north midland counties, but not exceeding 64° in London, 59° at Aberdeen, and 56° at Stornoway.

Wind extremely variable in direction, and light in force. Mainly South-Westerly over the British Isles; a small cyclonic circulation forming over St. George's Channel temporarily, but breaking up later. No other important change.

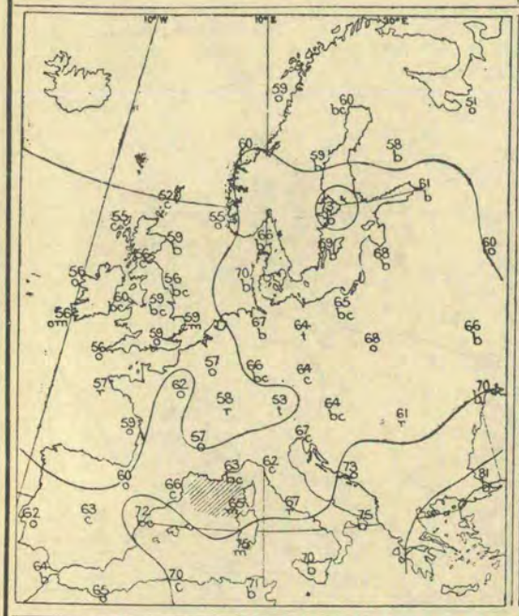
Barometer highest, 30·00 ins. to 30·25 ins., over France and Spain; lowest, 29·8 ins. and less, over extreme north of Europe. Distribution of pressure exceedingly complex, but gradients slight. No decided modification during the day.

II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 15th June.

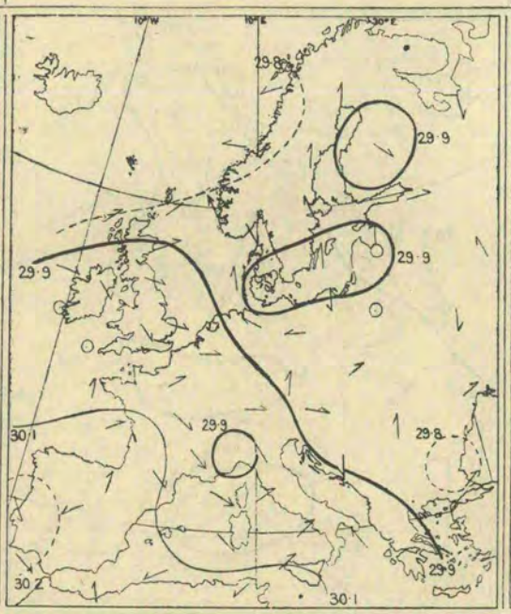
Temperature and Weather.

8 a.m.

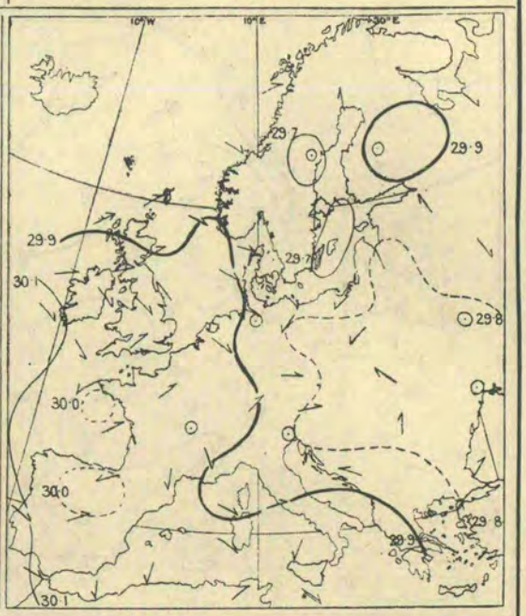


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine and bright over Northern Europe and the northern parts of the British Islands, as well as on the southern shores of the Baltic; much less fair elsewhere; gloomy in many places; rainy and thundery in some. Rain showers later, and local thunderstorms, in several parts of Germany, France, and the south of our Islands—the falls being heaviest in South Germany and the neighbourhood of London.

Temperature not changing materially, but inclined to rise over Spain and France; morning readings below 60° over nearly the whole of North-Western Europe, and below 70° almost everywhere but the extreme south and south-east. Daily maxima much below 70° in the United Kingdom, but reaching 74° at Paris, 79° at Berlin and Lemberg, but exceeding 80° in the south of Italy and Turkey only; maximum at Constantinople 90°.

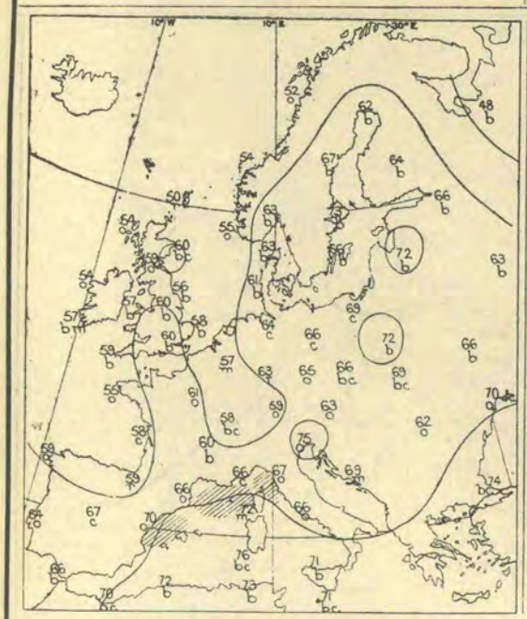
Wind again extremely variable, though more from the South-Westward in our Islands than from any other quarter; Southerly in the Baltic, and North-Westerly to Westerly over the Mediterranean and South Germany. Veering to W. and N.W. in Scotland and Ireland later.

Barometer highest, 30·00 ins. to 30·23 ins., in the west of Ireland, over France, the Bay of Biscay, and Spain, and exceeding 29·9 ins. in detached anticyclonic systems lying over the Baltic; lowest, 29·8 ins. and less, in a large shallow area of low pressure off the west of Norway; very shallow depressions found over the Gulf of Genoa and European Turkey also. Barometer subsequently rising in west, and the local depressions beginning to fill up.

Sunday, 16th June.

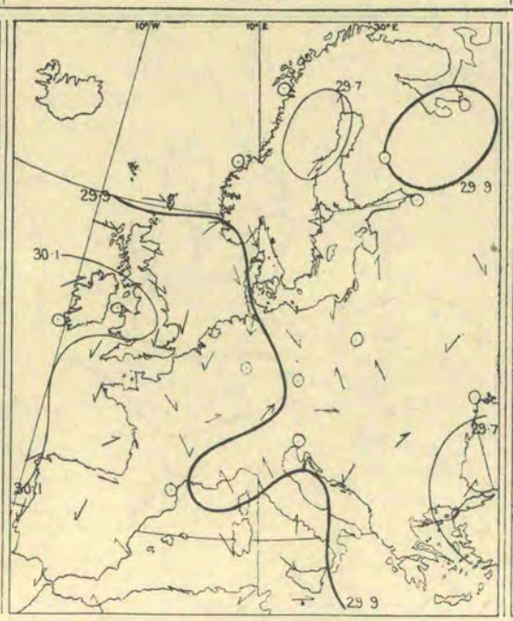
Temperature and Weather.

8 a.m.



Barometer and Wind.

8 a.m.



6 p.m.

Weather improving over the British Islands, though still rather unsettled in France, and very so in some parts of Germany. No rain worth mentioning over the United Kingdom later, but some in the west of France, and a good deal in some parts of South Germany.

Temperature inclined to rise a little over the British Islands and in the far south, not changing much elsewhere. Morning readings above 70° over the Baltic Provinces, at several of the Mediterranean stations, and at Constantinople. Daily maxima exceeding 70° over most of the inland parts of the United Kingdom, and rising to 80° or more in Algeria, the south of Italy, and on the Bosphorus.

Wind Westerly over the greater part of the British Isles, North-Westerly to Northerly in Denmark and North Germany, Southerly in Finland, Northerly in France, and North-Easterly in the Channel; very variable over Central and Eastern Europe, and light or moderate in force everywhere. North-Westerly and Northerly wind freshening to the Eastwards of the North Sea later.

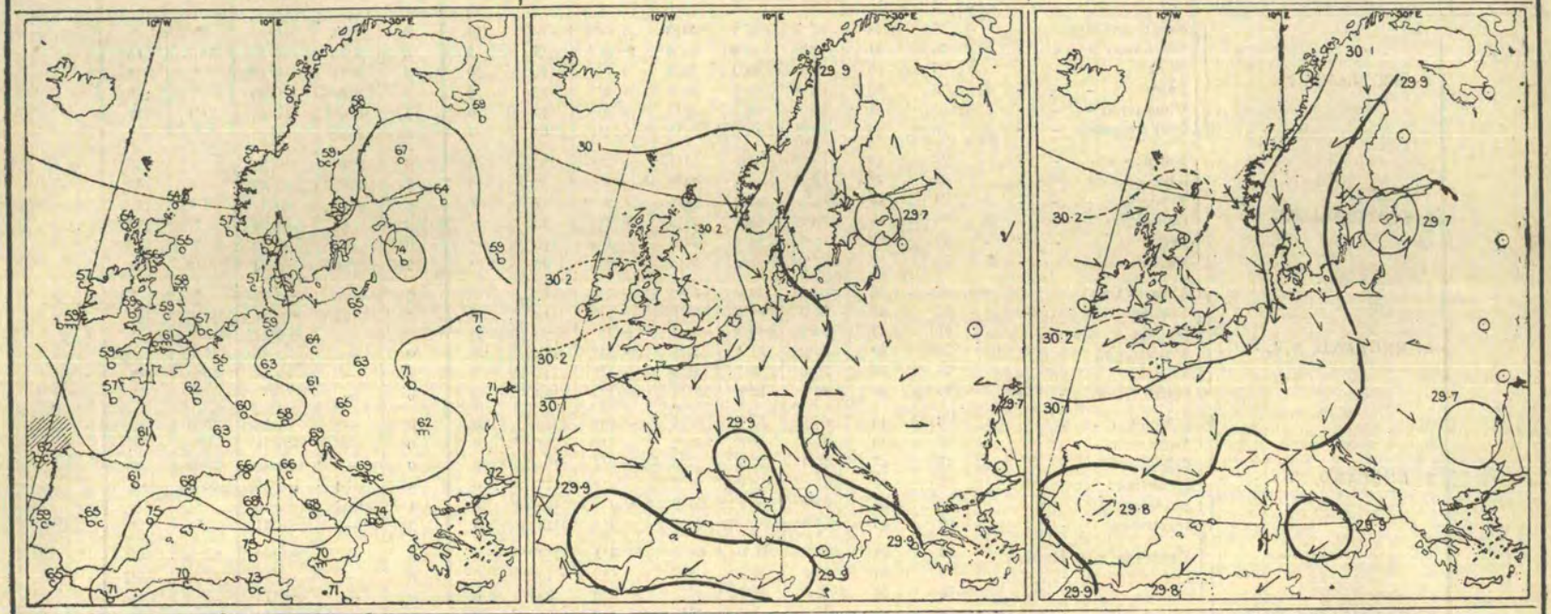
Barometer rising decidedly over the United Kingdom and North Sea, falling over South-Western Europe; little change elsewhere. Readings highest in the west and north-west, lowest over the north of Sweden and the Black Sea; gradients very slight. High pressure area spreading over our Islands from the westward during the day, and beginning to stretch northwards to Norway.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 17th June.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fair generally over the United Kingdom and north of France, but hazy in places; less settled over Southern and Central Europe and the Baltic Provinces; fine over South-Eastern Europe. No rain over the British Isles, but some reported in the west of France, and at a few stations in Germany and Austria, as well as over Finland.

Temperature increasing a little in France, Ireland, and the south of England; falling over Russia and Poland, and at some of the Mediterranean stations. Daily maxima again exceeding 70° over most inland parts of our Islands (not in London), as well as at many Continental stations: touching 80° at Perpignan, and exceeding that value in some parts of Austria and the south of Italy. Rising to between 90° and 100° in parts of Algeria.

Wind chiefly Northerly over Scandinavia and Denmark, North-Westerly in Germany, Southerly on the eastern shores of the Baltic and over Finland, Northerly to North-Easterly over England, the Channel (freshening in the last-named region), and in France; variable elsewhere. Not much change later.

Barometer rising over North-Western Europe and the British Isles, falling very slightly in the south-west, changing little and irregularly elsewhere. Readings highest, 30·0 ins. to 30·2 ins., over North-Western Europe; lowest, over Finland, Western Russia, Poland, and Austria; rather low over the Mediterranean also. Shallow depressions over the Gulf of Riga, the Mediterranean, south-east of Spain, and Algeria. Fall of barometer in south-west continuing slowly and spreading northwards towards England and Ireland.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the greater part of this week pressure was highest over Portugal, Spain, and the Bay of Biscay, and at first was rather high over South-Eastern Europe also. Numerous shallow depressions appeared in other districts, keeping the weather in a cloudy and showery condition, while severe thunderstorms and heavy rain occurred locally, especially over the more southern countries. The high pressure area then stretched northwards and afterwards spread eastwards over the British Islands. The weather improved considerably—first over the British Islands and their neighbourhood. At the close of the week, temperature, though rather low over the greater part of Europe, began to rise rapidly in Algeria, where the daily maxima on the 17th ranged between 90° and 100° Fahr.

III.—DATA from which the SUMMARY on page 139 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	59	42	57·6	45·9	51·3	+ 0·2	65	0	5	0·34	−0·15	*	*
	Stornoway	58	41	56·9	46·9	51·6	− 0·9	67	0	5	0·35	−0·35	16·3	13
	Wick	65	45	62·4	49·1	55·3	+ 3·1	93	0	4	0·23	−0·18	*	*
	Lairg ℌ	72	35	64·9	45·1	54·3	+ 2·8	86	0	3	0·28	−0·30	*	*
	Glencarron ℌ	65	41	59·8	46·5	52·7	+ 0·4	75	0	5	0·61†	−0·68	21·0	17
	Fort Augustus ℌ	73	40	66·2	48·0	56·5	+ 1·9	102	0	2	0·06†	?	*	*
1. SCOTLAND, E.	Nairn	71	40	66·6	48·9	57·1	+ 2·6	106	0	3	0·10	−0·35	*	*
	Aberdeen	68	42	62·6	47·9	54·7	0·0	89	0	2	0·02	−0·42	52·5	43
	Braemar ℌ	71	38	65·5	44·5	54·4	+ 2·6	87	0	3	0·19	−0·41	51·3‡	42‡
	Ochtertyre ℌ	78	42	69·6	48·3	58·2	+ 3·5	113	0	2	0·02	−0·66	*	*
	Leith	72	37	67·7	48·6	57·5	+ 1·9	109	0	0	—	−0·42	*	*
	Marchmont ℌ	73	37	67·9	46·1	56·2	+ 2·2	99	0	2	0·06	−0·54	70·0	58
2. ENGLAND, N.E.	Alnwick Castle	67	46	64·3	49·1	56·2	+ 1·8	99	0	2	0·05	−0·41	*	*
	Durham	77	40	71·3	46·2	57·9	+ 2·3	111	0	1	0·01	−0·47	52·3	44
	Shields	70	43	64·1	49·1	56·1	+ 1·1	99	0	0	—	−0·41	*	*
	Scarborough ℳ	73	49	65·0	51·5	57·8	+ 2·7	111	0	0	—	−0·49	47·6‡	40‡
	York	74	46	70·6	48·7	58·9	+ 1·9	118	0	0	—	−0·58	50·9	43
	Spurn Head	70	49	62·9	52·0	57·1	+ 1·4	106	0	0	—	?	*	*
3. ENGLAND, E.	Hillington ℳ	73	43	68·0	48·3	57·5	+ 0·9	109	0	0	—	−0·54	50·3	43
	Yarmouth	66	49	61·3	51·1	55·8	− 1·2	97	0	0	—	−0·48	*	*
	Geldeston	73	47	66·1	49·7	57·3	− 0·1	107	0	0	—	−0·41	45·9	40
	Cambridge	72	47	67·6	49·0	57·7	− 0·7	110	0	2	0·06	−0·50	36·3	32
	Rothamsted	70	47	64·9	50·1	57·0	− 1·9	105	0	1	0·03	−0·49	*	*
	Ingatestone	69	48	66·0	51·1	58·1	− 1·1	113	0	0	—	−0·51	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	75	45	70·6	48·0	58·5	+ 1·1	116	0	0	—	−0·60	49·9‡	43‡
	Loughborough	76	45	69·9	48·7	58·6	0·0	116	0	0	—	−0·57	45·9‡	40‡
	Cheadle ℳ	70	46	65·3	48·1	56·1	− 0·6	99	0	0	—	−0·72	*	*
	Churchstoke ℳ	73	40	67·0	44·7	55·1	− 1·6	92	0	0	—	−0·52	49·8	43
	Hereford ℳ	74	43	70·9	46·7	58·0	− 0·1	112	0	0	—	−0·52	*	*
	Cirencester	70	41	66·4	47·1	56·1	− 1·3	99	0	2	0·12	−0·47	35·1	30
	Oxford	72	48	66·3	50·9	58·1	− 0·4	113	0	2	0·03	−0·50	34·8	30
5. ENGLAND, S.	London	72	48	66·4	52·3	58·9	− 0·7	118	0	2	0·21	−0·28	24·6‡	22‡
	Strathfield Turgiss ℳ	72	46	65·8	51·2	58·0	+ 0·6	112	0	2	0·06	−0·42	*	*
	Dungeness	66	47	64·7	51·7	57·8	− 0·6	111	0	3	0·04	−0·36	*	*
	Hastings (St. Leonard's)	67	49	62·7	51·7	56·8	− 0·9	104	0	1	0·02	−0·38	50·1	44
	Southampton	76	49	67·4	52·7	59·5	+ 1·0	123	0	1	0·02	−0·45	33·7	30
	Hurst Castle	70	49	64·7	52·3	58·1	− 0·1	113	0	1	0·11	−0·37	*	*
	Stowell ℳ	71	45	64·8	50·0	56·9	− 0·5	104	0	2	0·10	?	29·4‡	26‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	64	43	61·4	49·2	54·9	+ 0·7	90	0	5	0·49†	−0·72	*	*
	Glasgow	70	42	64·9	48·6	56·2	+ 1·5	99	0	2	0·06	−0·61	51·6	43
	Ardrossan	64	43	61·3	49·9	55·2	0·0	92	0	2	0·23	−0·37	*	*
	Glenlee ℌ	72	33	65·0	43·1	53·6	− 0·9	81	0	4	0·12†	−0·66	*	*
	Douglas (Isle of Man)	66	40	61·8	46·5	53·6	− 1·4	81	0	3	0·16	−0·36	57·4	49
7. ENGLAND, N.W.	Newton Reigny (Penrith)	71	33	65·7	43·0	53·6	− 1·7	81	0	1	0·03	−0·49	59·0	50
	Barrow-in-Furness	66	42	60·7	50·6	55·3	− 1·3	93	0	2	0·11	−0·46	*	*
	Stonyhurst	70	44	65·2	47·7	55·8	− 0·4	97	0	1	0·09	−0·71	56·2	48
	Blackpool ℳ	67	43	64·5	49·3	56·4	− 0·8	101	0	1	0·03	−0·49	59·8	51
	Manchester	71	45	66·2	47·7	56·3	− 1·3	100	0	0	—	−0·74	*	*
	Liverpool Obsy (Bidston)	69	47	64·3	50·3	56·8	− 0·8	104	0	2	0·09	−0·36	*	*
	Llandudno ℳ	67	46	64·1	49·9	56·5	− 1·0	102	0	2	0·23	−0·21	51·7	47
	Holyhead	62	48	60·6	49·7	54·8	− 1·6	90	0	2	0·25	−0·23	*	*
8. ENGLAND, S.W.	Llandovery	81	41	71·0	46·4	57·8	0·0	111	0	1	0·03	−0·69	*	*
	Pembroke	67	49	61·0	51·0	55·7	− 1·0	96	0	1	0·13	−0·36	63·7	55
	Arlington (N. Devon)	70	42	63·9	47·3	55·0	− 2·3	91	0	3	0·19	−0·72	*	*
	Cullompton ℳ	75	44	67·8	49·0	57·8	− 0·1	111	0	1	0·03	−0·57	38·0	33
	Falmouth	68	48	63·4	51·7	57·1	− 0·6	106	0	3	0·21	−0·47	48·8	43
	Plymouth	75	48	67·5	51·9	59·2	+ 0·7	120	0	3	0·14	−0·34	31·2	28
	Prawle Point	68	46	60·6	49·1	54·6	− 1·9	88	0	3	0·10	?	*	*
9. IRELAND, N.	Malin Head	62	48	59·7	50·1	54·6	− 0·1	88	0	4	0·28	?	*	*
	Londonderry	74	45	66·7	47·8	56·6	+ 1·0	102	0	4	0·35	−0·25	*	*
	Mullaghmore	66	45	60·6	49·4	54·6	− 2·1	88	0	3	0·50	−0·23	*	*
	Belmullet	60	46	58·4	50·4	54·2	− 1·0	85	0	2	0·31	?	*	*
	Markree Castle	67	38	62·2	43·8	52·4	− 4·0	73	0	3	0·39	−0·31	34·8	29
	Brookeborough	72	40	65·0	45·6	54·6	− 2·3	88	0	2	0·19	?	*	*
	Armagh	71	41	66·1	47·1	55·9	− 0·9	97	0	3	0·16	−0·34	41·2	35
	Donaghadee	64	50	61·7	52·7	56·9	+ 1·1	104	0	3	0·13	−0·36	*	*
	Edgeworthstown	73	40	66·3	45·0	54·9	− 1·4	90	0	4	0·36	−0·41	*	*
10. IRELAND, S.	Dublin	70	41	66·5	51·3	58·4	+ 1·7	115	0	2	0·03	−0·43	52·1	45
	Parsonstown	73	42	65·9	46·7	55·6	− 0·9	95	0	4	0·24	−0·34	44·4	38
	Kilkenny	74	37	66·1	47·4	56·1	− 0·6	99	0	2	0·09	−0·44	*	*
	Waterford												*	*
	Roche's Point	65	48	62·1	50·0	55·6	− 2·9	95	0	2	0·16	−0·59	*	*
	Valencia	68	42	61·6	48·1	54·4	− 1·8	87	0	3	0·46	−0·34	53·6	47
	Killarney	72	38	64·4	44·4	53·7	− 2·9	82	0	2	0·08	?	*	*
	Foynes	70	46	63·3	49·4	55·9	− 0·4	97	0	4	0·24	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	67	50	62·0	52·6	57·0	− 0·2	105	0	2	0·08	−0·37	*	*
	Jersey	71	45	65·0	52·1	58·1	+ 0·1	113	0	1	0·01	−0·41	56·0	50

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ℌ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 25.] *Third Series.* WEEK ENDING MONDAY, 24TH JUNE, 1889. [*Price 6d.* [*Annual subscription, post paid*, £1 10*s.* 0*d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number, TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

DISTRICTS. (See p. 150.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
	°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	77	38	63·1	48·5	55·3	2 above.	93	+30	0	0	739	+200	514	+ 4
1. SCOTLAND, EAST	82	43	66·0	49·3	57·1	2 above.	106	+20	0	0	872	+115	548	+ 5
2. ENGLAND, N.E.	77	47	62·8	51·1	56·6	0 (average).	102	+10	0	0	862	+ 71	488	+ 6
3. ENGLAND, EAST	74	45	65·6	50·4	57·4	2 below.	108	+ 4	0	0	1020	+ 42	619	+112
4. MIDLAND COUNTIES	80	44	69·4	49·7	58·9	0 (average).	118	+15	0	0	1062	+ 54	564	+ 60
5. ENGLAND, SOUTH	79	42	69·3	51·8	60·1	1 above.	127	+16	0	0	1149	+ 67	448	+ 75
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	78	44	69·8	51·2	59·8	4 above.	125	+36	0	0	949	+124	375	− 23
7. ENGLAND, N.W.	78	43	69·6	51·2	59·8	2 above.	125	+29	0	0	963	+ 92	382	− 1
8. ENGLAND, S.W.	82	43	68·9	52·3	60·1	2 above.	127	+25	0	0	1073	+ 11	321	+ 88
9. IRELAND, NORTH	80	44	68·5	51·1	59·2	2 above.	120	+30	0	0	982	+ 75	297	− 53
10. IRELAND, SOUTH	78	44	70·4	52·3	60·7	3 above.	131	+35	0	0	1123	+ 42	225	− 14
— CHANNEL ISLANDS	71	52	65·1	54·9	59·7	1 above.	124	+20	0	0	1216	+ 63	77	− 16

Rainfall. Bright Sunshine.

DISTRICTS. (See p. 150.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
		10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	0	—	7 less.	118	+10	18·9	−0·3	61	49	533	−125	24	− 6
1. SCOTLAND, EAST	1	less than ½	5 less.	93	+ 4	10·6	−3·2	64	52	667	− 60	30	− 3
2. ENGLAND, N.E.	0	less than ½	5 less.	85	− 1	9·9	−1·6	59	49	614 *	− 36	28	− 2
3. ENGLAND, EAST	0	less than ½	5 less.	90	+ 1	11·1	+0·3	37	32	613	−182	28	− 9
4. MIDLAND COUNTIES	0	less than ½	6 less.	83	− 4	13·9	+1·3	50	43	575	−125	26	− 6
5. ENGLAND, SOUTH	0	less than ½	5 less.	88	+ 4	10·8	−1·3	57	50	596	−142	27	− 7
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	0	—	8 less.	100	+ 3	18·3	−2·3	66	55	693	+ 1	32	0
7. ENGLAND, N.W.	0	less than ½	6 less.	91	+ 2	13·0	−2·3	66	56	664	− 31	30	− 2
8. ENGLAND, S.W.	1	1	5 less.	88	− 7	15·2	−3·6	74	65	751	− 62	35	− 3
9. IRELAND, NORTH	0	—	7 less.	109	+ 2	16·0 *	+0·5	55	47	585	−104	27	− 5
10. IRELAND, SOUTH	1	1	6 less.	100	− 2	16·3	−1·9	64	55	721	− 49	33	− 3
— CHANNEL ISLANDS	2	11	6 more.	97	− 6	12·1	−2·2	39	35	789	−173	36	− 8

General Remarks.

Weather has remained generally fine and dry, but over England a good deal of cloud has been experienced during the nights and the early morning hours. Thunderstorms occurred in the "Channel Islands" on the 19th, 20th, and 21st.

Temperature has been about equal to the average in "England, N.E." and the "Midland Counties", and a little below in "England, E.", but in all other districts the mean values have been in excess of the normal. In most cases the excess has ranged from 1° to 3°, but in "Scotland, W." it has been as much as 4°. The highest readings, which were observed as a rule either on the 21st or 22nd, varied from 82° in "Scotland, E." and "England, S.W." to 74° in "England, E." and 71° in the "Channel Islands". The lowest readings were recorded on irregular dates, and ranged from 38° in "Scotland, N." to 47° in "England, N.E." and 52° in the "Channel Islands".

Rainfall has been considerably less than the mean in all districts excepting the "Channel Islands", where owing to the heavy rains which accompanied the thunderstorms of the 19th, 20th, and 21st, a decided excess has occurred. At a large majority of our stations the week was absolutely rainless.

Bright sunshine has been upon the whole far more prevalent than it was the previous week, the percentages of the possible amount of duration ranging from 32 in "England, E." and 35 in the "Channel Islands" to 65 in "England, S.W."

Barometer and Wind.—During the whole of this period a large area of high pressure has extended from the far north over the more northern parts of the United Kingdom, while the lowest readings have been observed to the southward of our Islands. The prevailing winds have therefore been Easterly to Northerly. Some shallow depressions have appeared at various times over France and Spain, but the influence of these systems has not extended to this side of the English Channel.

* These values have been altered slightly owing to the receipt of further information.

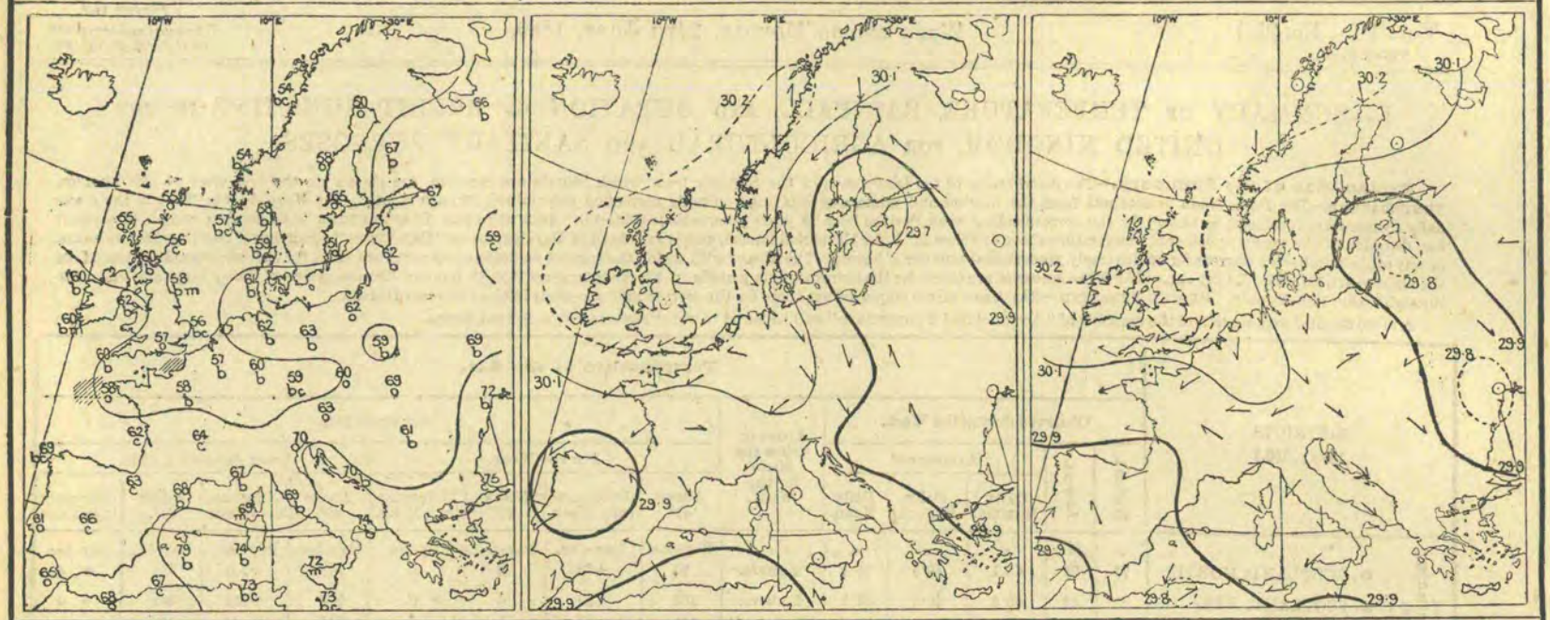
A 59209. 350.—6/89. Wt. 36. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 18th June.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather very fine over the United Kingdom, Norway, the North Sea, Germany, South-Eastern Europe, and Algeria, as well as in some parts of France, cloudy or overcast elsewhere, and unsettled over the Baltic. Rain in considerable quantities later over the Baltic, the west of France, some parts of Spain, and the south of Russia, thunder and lightning over France.

Temperature rather low for the time of year in most places; exceeding 70° in morning at several of the western, southern, and eastern stations on the coasts of the Mediterranean at Constantinople, and on the northern shores of the Black Sea; below 60° in the north and east of our Islands, in Denmark, and Scandinavia, but as high as 67° over Finland. Thermometer rising to between 95° and 105° over Algeria later, to between 80° and 90° in the south of Italy, to 80° and more over Austria, and to 70° and more over Ireland and the north of England, but not exceeding 65° over our south-eastern counties.

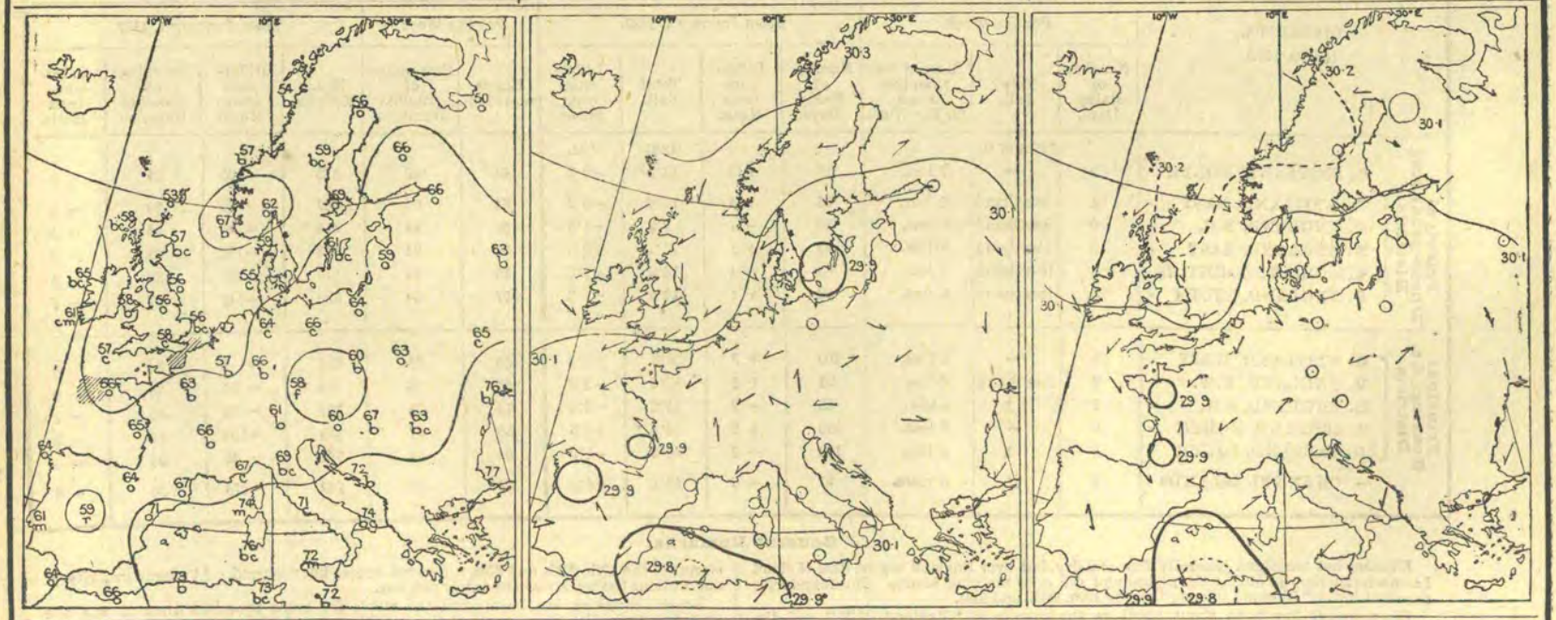
Wind very light and variable over the greater part of the British Islands, Northerly over Scandinavia (strong to a gale in force), North-Westerly in North Germany, South-Easterly in Finland, calm over Russia; fresh North-Easterly breezes in the Channel and north of France, South-Easterly in the south-west of France, South-Westerly in Portugal. North-Easterly winds subsequently becoming more general over England later. Northerly gale in Sweden, and North-Easterly wind in the Channel, both moderating later. Not much change reported elsewhere.

Barometer rising in most places, but falling over Spanish Peninsula; readings ranging from 30·2 ins. and more over the British Islands and Norway, to 29·9 ins. and less, in a depression over Spain, as well as over South-Eastern Europe and Western Russia, and to 29·7 ins. and less in a depression over the Gulf of Riga. Latter depression beginning to fill up later, but shallow one over Spain moving northwards towards the Bay of Biscay.

Wednesday, 19th June.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fair at first in nearly all regions; cloudy at many of our own and the Baltic stations, as well as over France, Spain, and some parts of the Mediterranean, fine and bright elsewhere, but unsettled in France and the Channel. Thunder, lightning, and much rain at several of the Continental stations, later, a heavy thunderstorm at Jersey, and slight ones in Devon and Cornwall.

Temperature low over the northern and north-western countries, high in the south and south-east; morning readings exceeding 70° at many of the Mediterranean stations, in Turkey, and in the south of Russia, but as low as 50° at Archangel and 53° at Sumburgh Head. Daily maxima exceeding 70° at our inland stations as well as in Scandinavia and Denmark, and reaching 77° at Wiesbaden, 82° at Paris, 90° and more in the south of Italy; exceeding 100° in several parts of Algeria.

Wind North-Easterly over Scandinavia, the North Sea, England, and the north of France (strong over the Channel), light and variable over Ireland, Scotland, and nearly the whole of Europe. The North-Easterly wind moderating in the Channel and north of England later, but very little change occurring elsewhere.

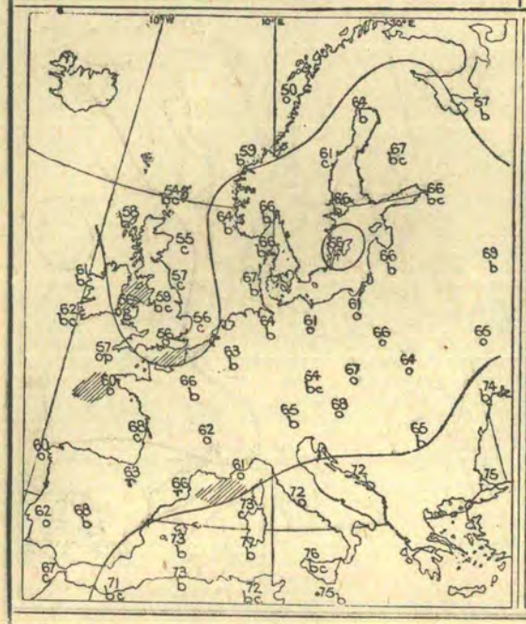
Barometer highest, 30·1 ins. to 30·3 ins., over the north of Russia, Scandinavia, the North Sea, and British Islands; lowest, 29·8 ins. and less, near Algiers, below 30·0 ins. over Poland, Western Russia, and the Baltic Provinces, and below 29·9 ins. in shallow depressions lying over the south of Sweden, Spain, and the Bay of Biscay. The latter disturbances becoming extensive later, and that over Sweden dispersing.

II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 20th June.

Temperature and Weather.

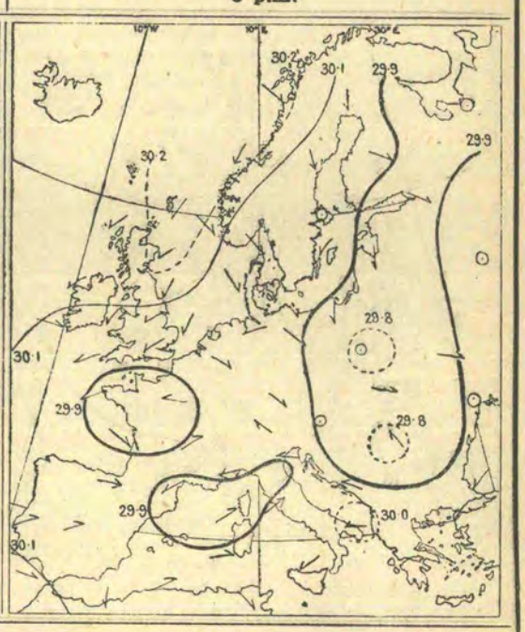
8 a.m.



Barometer and Wind.

8 a.m.

6 p.m.



Weather changeable and unsettled over Western Europe, with rain at Perpignan, thunder and lightning near Paris, and overcast skies in many places. Fair, but cloudy at times, in the United Kingdom and in Germany, fine and bright over Northern Europe, Russia, and Italy. Thunderstorms and rain later in many parts of France and Austria, and in some parts of Germany, as well as at Jersey. Heavy rains at Neufahrwasser, Warsaw, and Buda-Pesth. Slight rain at Scilly.

Temperature still rather low in the north and north-west, but high in the south and south-east; morning readings below 60° over nearly the whole of our Islands. Daily maxima ranging from 70° to 75° at our inland stations, reaching 83° at Paris, Gap, Sanguinare, and Hermanstadt, (?) 84° at Hernosand, exceeding 90° in the south of Italy, and reaching almost 100° Fahr. over Algeria.

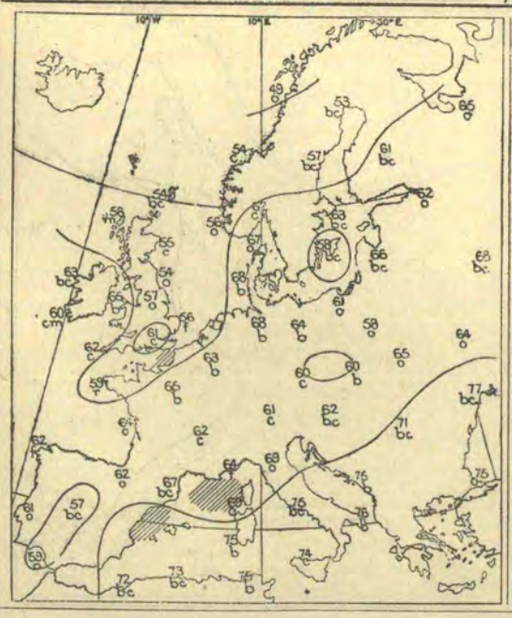
Wind light North-Easterly over the British Islands, north of France, the North Sea, and south of Sweden, Northerly over the Bay of Biscay, and Spain, Easterly (strong) in the south of France, very variable elsewhere. Shifting to the Westward at some of the southern French stations later, and freshening from the Northward over North Germany; not much change elsewhere.

Barometer, highest, 30·10 to 30·25 ins., over the British Islands, Norway, and Lapland, slightly above 30·1 ins. over Russia, and exceeding 30·0 ins. over the south western half of Spain, and in Algeria; lowest, 29·9 ins. and less, over Poland as well as in the south-west of France, and in the Gulf of Lyons. A shallow but irregularly shaped low-pressure area covering nearly the whole of Western and Central Europe in the morning, but undergoing great modifications in form later. Pressure giving way in Russia.

Friday, 21st June.

Temperature and Weather.

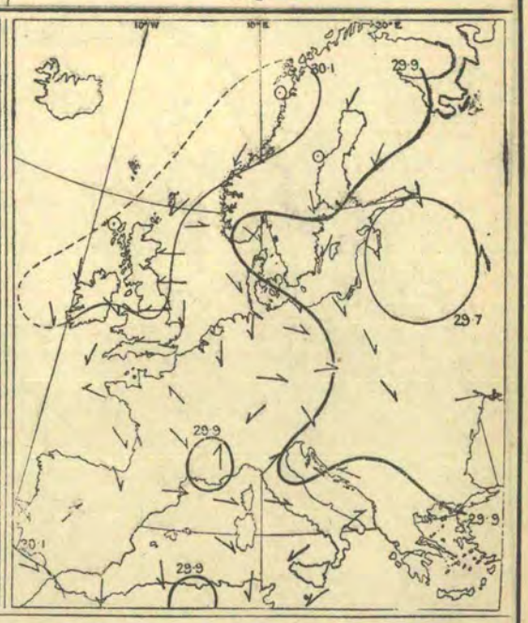
8 a.m.



Barometer and Wind.

8 a.m.

6 p.m.



Weather still fair over the greater part of the United Kingdom, but dull in places, with misty drizzle over our midland counties; clear at many of the Continental stations; cloudy elsewhere, not settled as a rule, and rainy at Breslau. Rain later at many of the southern and western French stations and at Jersey, as well as in parts of North Germany and the Baltic Provinces; thunderstorms in Southern and Central France; fine over Great Britain and Ireland.

Temperature fallen over the Baltic and Central Europe; risen over the south-eastern countries. Morning readings of 70° to 77° recorded over South-Eastern Europe, Italy, Algeria, and the north-east of Spain, but below 50° at Bodo, and very little above 50° at many stations in our Islands. Maxima 78° at Parsonstown, 70° to 76° in many parts of Great Britain, 80° to 95° in Italy, and 90° to 104° over Algeria.

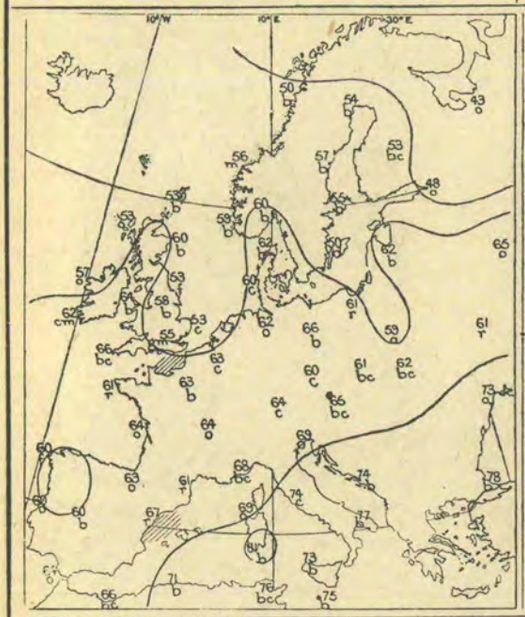
Wind chiefly Northerly over the Baltic, Scandinavia, the British Islands, North-Easterly in the Channel, North-Westerly to Westerly over Germany and Spain, very variable elsewhere; chiefly Southerly over Russia. Not much change later.

Barometer highest, 30·10 ins. to 30·20 ins. and more, over the British Islands and Norway; 30·0 ins. to 30·1 ins. over Spain, and rather above 30·1 ins. over the south-east of Russia; lowest, below 29·8 ins. over Northern and Western Russia, Poland, and Austria, and below 29·7 ins. a little inland from the Baltic Provinces. The low pressure area over France apparently filling up slowly. No very important change later, beyond further modifications in the forms of the Continental low pressure systems.

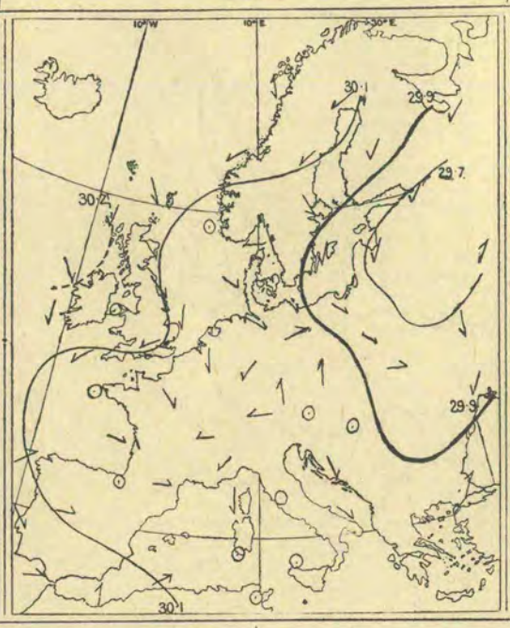
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 22nd June.

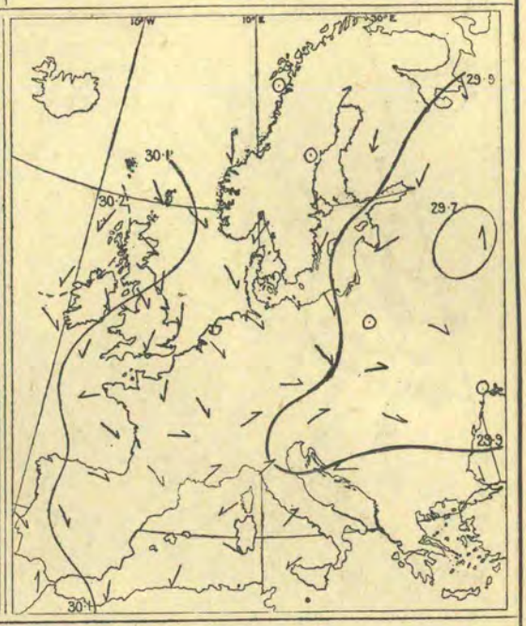
Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



6 p.m.



Weather fair generally; clear and bright in many places, cloudy or overcast in others, hazy or foggy in several localities over the British Islands; rain falling at Neufahrwasser, Swinemunde, Brest, and Barcelona. Heavy rain in Southern Russia later and at Turin, smaller quantities in several parts of France and Germany and at Parsonstown; thunderstorms in the south-east of Germany.

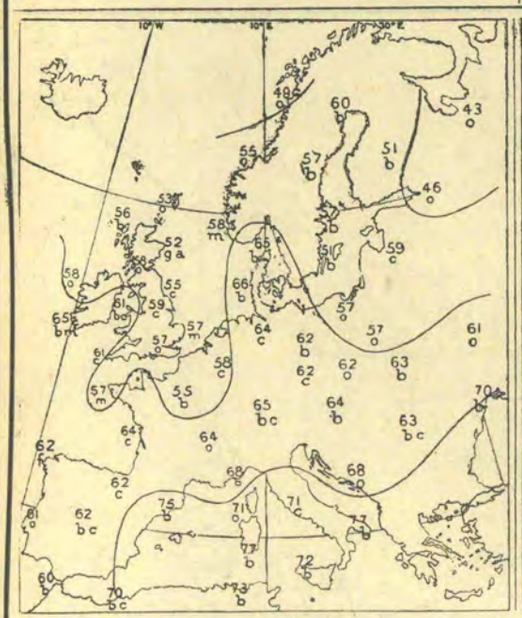
Temperature low over Northern and Western Europe, rather high in the extreme south and south-east; morning readings exceeding 70° over Algeria, Italy, and South-Eastern Europe generally, and as high as 75° at Nicolaieff, 78° at Constantinople, 77° at Brindisi, and 81° at Cagliari. Below 45° in the north of Russia, and very little above 50° in the north-west of Norway and the extreme north-west of the British Islands. Daily maxima exceeding 80° over Southern Europe generally, and exceeding 96° at Cagliari and some of the Algerian stations.

Wind mainly North-Easterly and Northerly over North-Western and Northern Europe and the Baltic; light as a whole, but blowing strongly in the Gulf of Finland, Westerly in Spain and the extreme south of France, and very variable elsewhere. Hardly any change later.

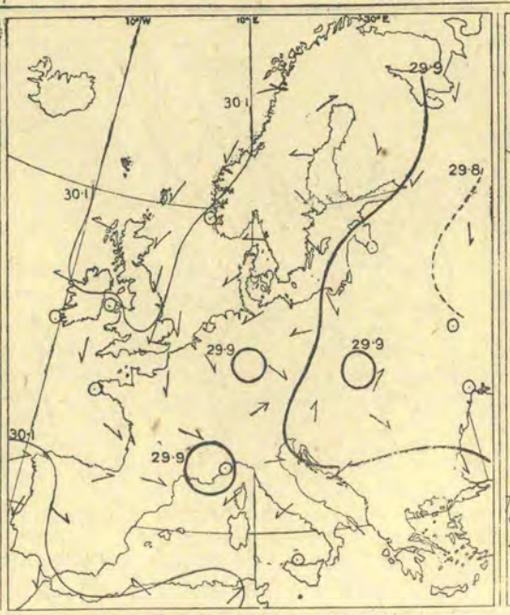
Barometer highest (exceeding 30·1 ins.) over the north-west of Norway, the British Islands, the south-west of Spain, and Western Algeria; lowest, about 29·6 ins., over Russia (between St. Petersburg and Moscow), and below 30·0 ins. in a very shallow system over the north-east of France and Western Germany. The last-named disturbance filling up later, and that over Russia becoming shallower.

Sunday, 23rd June.

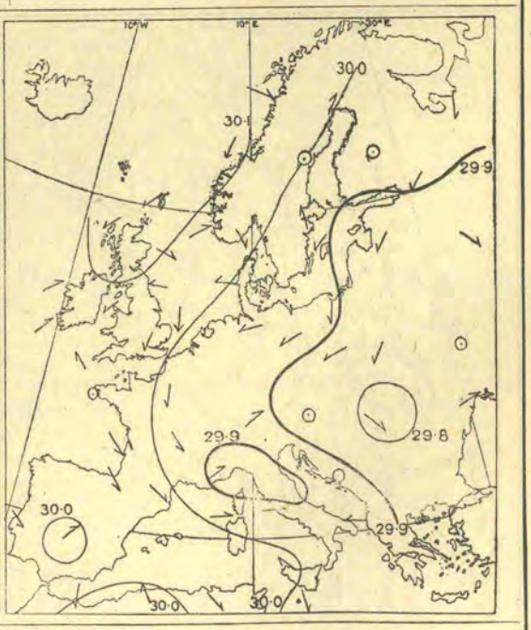
Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



6 p.m.



Weather gloomy and hazy, or foggy, over North-Western Europe, and overcast in Russia; variable elsewhere; slight rain falling at Aberdeen later, and somewhat larger quantities in the South of France, Switzerland, and some parts of North Germany. Very heavy fall at Trieste.

Temperature changing irregularly; morning readings still exceeding 70° at most of the Mediterranean stations and over South-Eastern Europe, but below 60° over the greater part of the United Kingdom and over Scandinavia; much below 50° at Archangel and St. Petersburg. Daily maxima exceeding 70° over our inland counties, exceeding 80° over the southern parts of Italy and France, and 90° over Algeria.

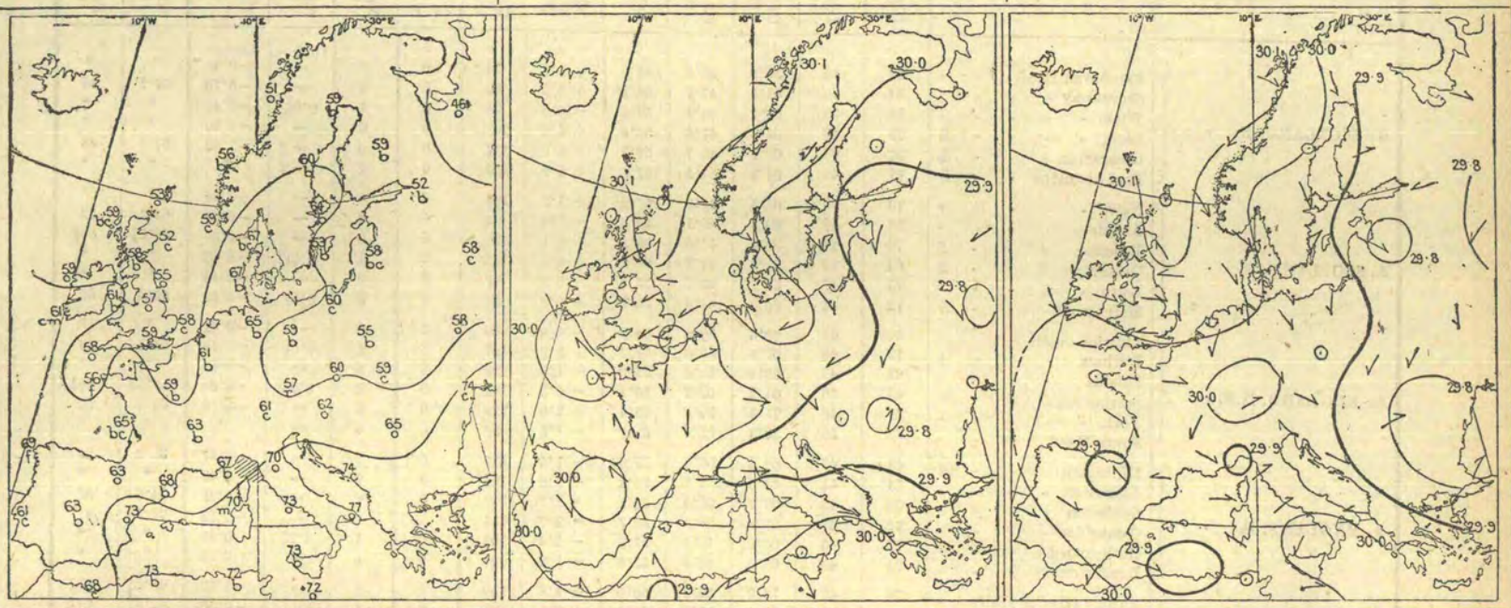
Wind light to moderate everywhere; mainly Northerly (North-West to North-East) over Northern and Western Europe, and very variable elsewhere. Cyclonic circulations of light winds prevailing in Poland, Western Germany, and the south of France.

Barometer highest, exceeding 30·1 ins., over the northern half of the British Isles and north-west of Norway, and also over Portugal and Algeria; lowest, about 29·7 ins., over Central Russia, and about 29·9 ins. in shallow local disturbances over Germany and the south of France. Gradients very slight. Barometer falling on our west and south-west coasts later, rising over Central Russia; no decided change elsewhere.

Monday, 24th June.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine over Scandinavia and the northern and western parts of the British Islands, very variable elsewhere, with very slight rain in some parts of England and at Prague, fog or haze in the south-west of the British Islands, and much cloud at several of the continental stations. Rain at Biarritz, Lisbon, Utrecht, and in the south of Austria later; thunder and lightning over Germany and the south of France; hardly any rain in our Islands.

Temperature continuing low in the north of Russia and over the British Islands and North Germany; morning readings still above 70° in the extreme south-east and south. Daily maxima slightly above 70° at our own inland stations, and rather higher at the German stations; exceeding 80° in the south of Italy, and ranging from 90° to 104° Faht. over Central Algeria.

Wind variable, Northerly to Easterly, over Northern and North-Western Europe; Northerly over Central Europe, and Westerly on the northern shores of the Mediterranean; exceedingly variable elsewhere. Force light except at some Mediterranean stations, where it blew freshly. No important change later.

Barometer highest, 30·0 ins. to 30·1 ins. and more, over Western and North-Western Europe; lowest over Russia and South-Eastern Europe. Gradients very slight and irregular. Shallow barometric minima near Kiev, Hermanstadt, Dover, and off our south-western coasts. Barometer inclined to rise in the west of our Islands later, but no appreciable change occurring elsewhere.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During this week the barometer has been continuously rather high over the northern parts of the British Islands, Norway, and Lapland. Shallow depressions have, in the meantime, prevailed over France, Germany, and Russia, with the result that, while the weather over the British Isles and North Sea has been fair, heavy rains and thunderstorms have been experienced on the Continent—especially in France,—and a good deal of cloud has been reported generally. Temperature has not been high as a rule, except over Algeria, Southern Italy, and South-Eastern Europe, in which regions the morning readings have been constantly above 70° (sometimes as high as 80°), and the daily maxima have ranged between 90° and 105° Faht.

III.—DATA from which the SUMMARY on page 145 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	60	42	56·9	48·6	52·5	+ 0·6	74	0	0	—*	−0·49	*	*
	Stornoway	64	45	61·4	47·7	54·1	+ 0·9	85	0	0	—	−0·70	69·2	55
	Wick	64	38	60·1	46·1	52·6	− 0·6	74	0	1	0·02	−0·40	*	*
	Lairg Ⓢ	73	43	66·4	47·6	56·4	+ 3·8	101	0	0	—	−0·60	*	*
	Glencarron Ⓢ	77	48	69·1	49·7	58·7	+ 5·9	117	0	0	—†	−1·32	53·5	43
	Fort Augustus Ⓢ	77	48	64·5	51·5	57·6	+ 2·2	109	0	0	—†	?	*	*
1. SCOTLAND, E.	Nairn	70	50	63·3	51·9	57·2	+ 1·7	106	0	0	—	−0·45	*	*
	Aberdeen	68	46	60·3	49·1	54·2	− 1·6	85	0	0	—	−0·45	63·5	52
	Braemar Ⓢ	78	43	72·9	47·3	59·2	+ 6·1	120	0	0	—	−0·60	68·2‡	55‡
	Ochtertyre Ⓢ	82	45	71·3	49·7	59·8	+ 4·0	125	0	1	0·01	−0·68	*	*
	Leith	75	47	62·7	49·7	55·8	− 0·8	97	0	0	—	−0·44	*	*
	Marchmont Ⓢ	72	46	65·4	48·0	56·1	+ 0·9	99	6	2	0·05	−0·59	60·3	50
2. ENGLAND, N.E.	Alnwick Castle	62	47	59·6	50·3	54·7	− 0·9	89	0	0	—	−0·47	*	*
	Durham	73	48	65·6	50·0	57·3	+ 0·7	107	0	1	0·01	−0·49	57·2	48
	Shields	61	49	59·4	50·9	54·9	− 1·8	90	0	0	—	−0·44	*	*
	Scarborough Ⓜ	63	50	61·2	52·2	56·4	− 0·3	101	0	1	0·02	−0·50	59·2‡	50‡
	York	77	48	71·3	50·9	60·4	+ 2·0	129	0	0	—	−0·58	59·0	50
	Spurn Head	62	50	59·9	52·1	55·7	− 1·5	96	0	0	—	?	*	*
3. ENGLAND, E.	Hillington Ⓜ	68	45	64·4	50·6	57·0	− 1·2	105	0	0	—	−0·57	31·0	26
	Yarmouth	64	51	61·6	52·7	56·8	− 1·9	104	0	0	—	−0·49	*	*
	Geldeston	68	46	63·9	50·4	56·7	− 1·7	103	0	0	—	−0·41	34·0	30
	Cambridge	72	47	68·3	50·4	58·7	− 1·7	117	0	0	—	−0·56	47·1	41
	Rothamsted	73	45	66·8	49·4	57·5	− 2·9	109	0	1	0·10	−0·43	*	*
	Ingatestone	74	46	68·3	48·7	57·8	− 2·9	111	0	0	—	−0·54	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	76	47	72·0	50·7	60·6	+ 1·7	130	0	0	—	−0·60	49·8‡	43‡
	Loughborough	79	48	71·1	51·0	60·4	+ 0·5	129	0	1	0·01	−0·56	42·9‡	37‡
	Cheadle Ⓜ	73	45	67·3	49·1	57·6	− 0·7	109	0	1	0·03	−0·69	*	*
	Churchstoke Ⓜ	77	44	68·3	48·2	57·6	− 0·2	109	0	0	—	−0·54	49·0	42
	Hereford Ⓜ	80	46	70·5	50·0	59·5	+ 0·2	123	0	1	0·01	−0·51	*	*
	Cirencester	76	47	68·1	48·7	57·9	− 0·6	111	0	0	—	−0·61	54·6	47
	Oxford	77	48	68·4	50·1	58·6	− 0·9	116	0	1	0·01	−0·54	51·3	45
5. ENGLAND, S.	London	77	48	71·1	52·1	60·9	− 0·3	132	0	1	0·02	−0·47	50·7‡	44‡
	Strathfield Turgiss Ⓜ	79	42	70·8	48·4	58·8	+ 0·2	118	0	1	0·02	−0·47	*	*
	Dungeness	67	51	65·9	54·9	60·0	+ 0·4	126	0	0	—	−0·40	*	*
	Hastings (St. Leonard's)	70	49	67·2	52·3	59·2	+ 0·1	120	0	0	—	−0·40	67·1	59
	Southampton	79	48	72·4	51·4	61·2	+ 1·6	134	0	0	—	−0·48	62·9	55
	Hurst Castle	73	52	69·4	53·6	61·0	+ 2·2	133	0	0	—	−0·48	*	*
	Stowell Ⓜ	75	47	68·5	49·7	59·5	+ 1·0	123	0	0	—	?	46·7‡	41‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	74	50	68·2	55·0	61·1	+ 5·6	134	0	0	—†	−1·25	*	*
	Glasgow	78	46	70·2	49·9	59·3	+ 3·3	121	0	0	—	−0·71	56·1	46
	Ardrossan	75	48	69·4	51·3	59·7	+ 3·4	124	0	0	—	−0·63	*	*
	Glenlee Ⓢ	77	42	72·5	47·7	59·2	+ 3·8	120	0	0	—†	−0·82	*	*
	Douglas (Isle of Man)	74	48	68·7	52·2	59·9	+ 3·7	125	0	0	—	−0·64	74·8	63
7. ENGLAND, N.W.	Newton Reigny (Penrith)	77	43	71·9	46·1	58·1	+ 1·9	113	0	0	—	−0·53	75·6	63
	Barrow-in-Furness	72	52	68·0	53·7	60·4	+ 2·5	129	0	1	0·10	−0·50	*	*
	Stonyhurst	76	47	70·6	50·2	59·7	+ 2·3	124	0	0	—	−0·85	68·1	58
	Blackpool Ⓜ	78	47	71·3	50·4	60·1	+ 1·6	127	0	0	—	−0·70	62·2	53
	Manchester	78	47	70·0	50·4	59·5	+ 0·6	123	0	0	—	−0·79	*	*
	Liverpool Obsr (Bidston)	73	50	69·4	52·6	60·4	+ 1·5	129	0	0	—	−0·48	*	*
	Llandudno Ⓜ	74	52	68·6	53·3	60·4	+ 1·7	129	0	0	—	−0·48	56·7	48
	Holyhead	71	51	66·7	53·1	59·5	+ 1·9	123	0	0	—	−0·49	*	*
8. ENGLAND, S.W.	Llandovery	82	43	73·6	48·7	60·3	+ 1·4	128	0	1	0·02	−0·73	*	*
	Pembroke	73	51	64·6	54·6	59·3	+ 1·6	121	0	0	—	−0·50	88·3	77
	Arlington (N. Devon)	73	47	68·9	50·6	59·1	+ 0·7	120	0	0	—	−0·95	*	*
	Cullompton Ⓜ	77	43	71·0	49·4	59·5	+ 0·2	123	0	0	—	−0·60	68·2	60
	Falmouth	73	50	67·1	54·7	60·5	+ 1·9	130	0	1	0·41	−0·27	61·6	55
	Plymouth	78	51	73·1	56·3	64·1	+ 4·4	155	0	1	0·39	−0·10	76·5	68
	Prawle Point	70	49	64·1	51·9	57·6	+ 0·2	109	0	2	0·14	?	*	*
9. IRELAND, N.	Malin Head	67	50	61·0	53·1	56·8	+ 1·2	104	0	0	—	?	*	*
	Londonderry	80	47	74·8	50·7	61·9	+ 5·5	139	0	0	—	−0·64	*	*
	Mullaghmore	71	50	67·3	53·4	59·9	+ 2·2	125	0	0	—	−0·78	*	*
	Belmullet	71	52	66·6	54·1	59·9	+ 3·6	125	0	0	—	?	*	*
	Markree Castle	74	43	70·9	49·2	59·3	+ 1·4	121	0	0	—	−0·73	43·4	37
	Brookeborough	77	45	71·4	48·2	59·0	+ 0·9	119	0	0	—	?	*	*
	Armagh	75	47	70·3	48·1	58·4	+ 0·4	115	0	0	—	−0·53	65·7	56
	Donaghadee	72	52	63·6	53·9	58·4	+ 1·6	115	0	0	—	−0·49	*	*
	Edgeworthstown	74	46	70·7	49·0	59·1	+ 1·7	120	0	0	—	−0·80	*	*
10. IRELAND, S.	Dublin	75	50	68·9	53·6	60·7	+ 2·8	131	0	0	—	−0·47	80·2	69
	Parsonstown	78	44	73·1	50·1	60·8	+ 3·4	132	0	3	0·41	−0·19	49·0	42
	Kilkenny	77	46	72·1	49·7	60·1	+ 2·2	127	0	0	—	−0·53	*	*
	Waterford												*	*
	Roche's Point	71	52	66·4	54·1	59·8	+ 0·4	125	0	0	—	−0·75	*	*
	Valencia	70	51	68·4	52·9	60·1	+ 3·1	127	0	0	—	−0·83	63·0	55
	Killarney	76	46	72·3	51·5	61·2	+ 3·3	134	0	2	0·15	?	*	*
	Foynes	76	48	71·9	54·0	62·3	+ 5·1	142	0	0	—	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	67	52	63·9	54·9	59·1	+ 0·9	120	0	2	0·14	−0·33	*	*
	Jersey	71	52	66·3	54·9	60·2	+ 1·0	127	0	2	1·96	+1·51	38·8	35

Stations marked Ⓜ are in connection with the Royal Meteorological Society, and those marked Ⓢ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 26.] *Third Series.* WEEK ENDING MONDAY, 1ST JULY, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861-80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866-85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881-85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 156.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	79	41	63·3	48·7	55·5	2 above.	95	+26	0	0	834	+211	514	+ 4
	1. SCOTLAND, EAST	80	40	69·8	49·4	58·9	3 above.	118	+26	0	0	990	+122	548	+ 5
	2. ENGLAND, N.E.	81	45	69·4	52·5	60·4	2 above.	129	+30	0	0	991	+ 85	488	+ 6
	3. ENGLAND, EAST	80	46	73·0	51·9	61·7	1 below.	138	+27	0	0	1158	+ 50	619	+112
	4. MIDLAND COUNTIES	82	45	74·3	51·6	61·9	2 above.	139	+34	0	0	1201	+ 65	564	+ 60
	5. ENGLAND, SOUTH	84	46	74·8	53·8	63·6	3 above.	151	+34	0	0	1300	+ 84	448	+ 75
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	74	43	67·1	51·5	58·8	2 above.	118	+23	0	0	1067	+130	375	− 23
	7. ENGLAND, N.W.	74	42	68·0	52·9	59·8	1 above.	125	+23	0	0	1088	+ 99	382	− 1
	8. ENGLAND, S.W.	83	42	70·4	51·7	60·4	1 above.	129	+21	0	0	1202	+ 20	321	+ 83
	9. IRELAND NORTH	76	43	65·5	51·7	58·1	0 (average).	113	+18	0	0	1095	+ 78	297	− 53
	10. IRELAND, SOUTH	76	44	68·5	51·7	59·5	1 above.	123	+21	0	0	1246 *	+ 50	225	− 14
	— CHANNEL ISLANDS	77	52	66·9	56·7	61·5	2 above.	137	+27	0	0	1353	+ 80	77	− 16

Rainfall. **Bright Sunshine.**

	DISTRICTS. (See p. 156.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	4	1	4 less.	122	+11	19·0	−0·9	25	20	558	−137	24	− 6
	1. SCOTLAND, EAST	1	less than ½	6 less.	94	+ 3	10·6	−3·7	51	42	718	− 57	31	− 3
	2. ENGLAND, N.E.	0	—	5 less.	85	− 5	9·9	−2·1	50	42	664	− 27	29	− 1
	3. ENGLAND, EAST	0	—	5 less.	90	− 1	11·1	−0·2	70	61	633	−167	30	− 7
	4. MIDLAND COUNTIES	1	1	5 less.	84	− 6	14·0	+0·9	56	48	631	−116	27	− 6
	5. ENGLAND, SOUTH	0	—	5 less.	88	+ 2	10·8	−1·8	69	61	665	−126	29	− 6
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	1	1	7 less.	101	0	18·4	−3·1	50	42	743	+ 13	32	0
	7. ENGLAND, N.W.	0	—	6 less.	91	− 1	13·0	−2·9	51	43	715	− 21	31	− 1
	8. ENGLAND, S.W.	0	—	7 less.	88	−10	15·2	−4·4	60	53	811	− 47	35	− 3
	9. IRELAND, NORTH	2	less than ½	7 less.	111	− 1	16·0	−0·2	35	29	620	− 98	27	− 4
	10. IRELAND, SOUTH	1	less than ½	6 less.	101	− 5	16·3	−2·5	43	38	764	− 43	33	− 2
	— CHANNEL ISLANDS	0	—	5 less.		− 9	12·1	−2·7	84	79	873	−142	38	− 7

General Remarks.

Weather has remained fair and very dry over the United Kingdom, but slight showers have fallen at some of our extreme northern and north-western stations. Thunderstorms occurred in some parts of England on the 28th and 29th.

Temperature has been from 1° to 3° above the mean in all districts excepting "Ireland, N." where it has been about equal to the normal. The highest readings were recorded, as a rule, either on the 26th or 27th when the thermometer rose to between 74° and 80° in Ireland and Scotland, and to a little above 80° in most of the English districts. The lowest readings, which were observed on irregular dates, varied from 40° in "Scotland, E." to 46° in "England, E." and "England, S.", and to 52° in the "Channel Islands".

Rainfall has again been considerably less than the mean in all parts of the country. At the large majority of our stations the week has been absolutely rainless.

Bright sunshine has been less prevalent than it was last week, excepting over the central, southern, and eastern parts of England, where an excess is shown. The percentage of the possible amount of duration has varied from only 20 in "Scotland, N." to 61 in "England, E." and "England, S." and to as much as 79 in the "Channel Islands".

Barometer and Wind.—The anticyclone which lay over our northern districts last week was replaced by large shallow areas of low pressure, which have travelled slowly in a north-easterly direction outside our extreme north and north-west coasts. On the 29th, however, a new anticyclonic system of considerable size and height extended over our Islands from the south-westward, and at the close of the week embraced nearly the whole Kingdom. The prevailing winds have been Northerly in the south, but Westerly or South-Westerly in all the more northern districts.

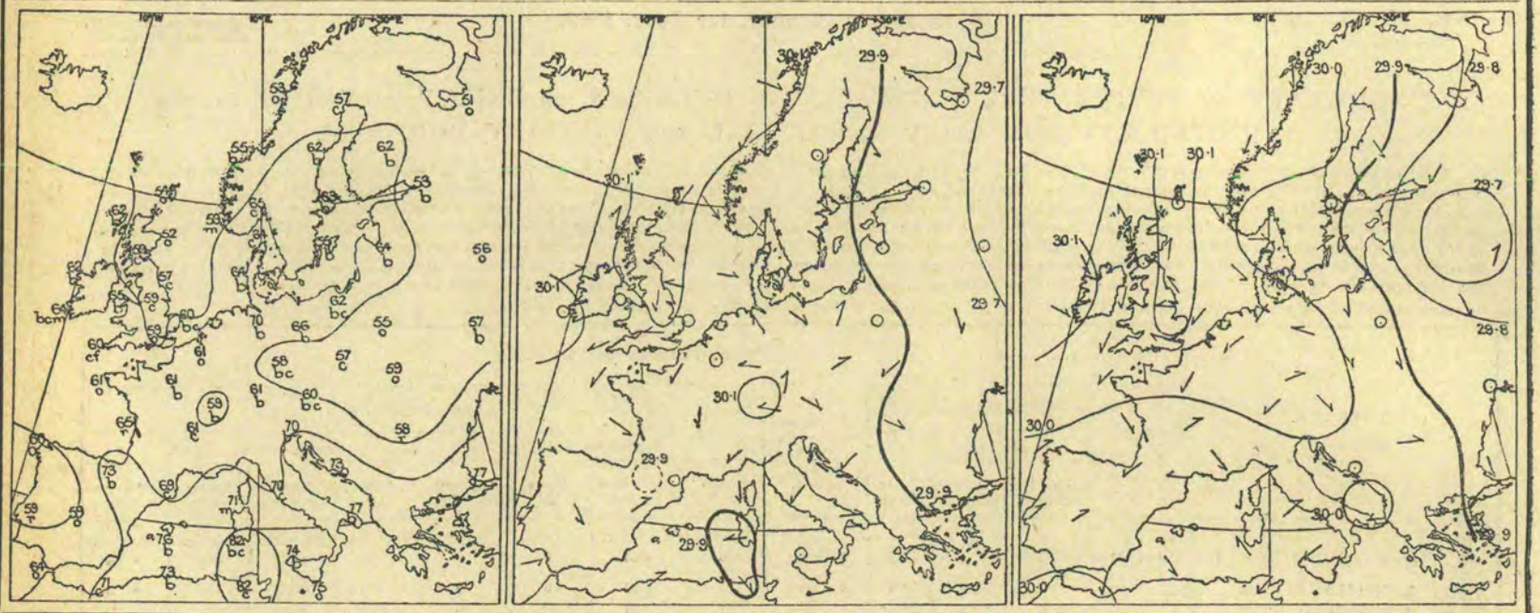
A 59275. 350.—7/89. Wt. 36. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 25th June.

Temperature and Weather. **8 a.m.**

Barometer and Wind. **8 a.m.** | **6 p.m.**



Weather fine and dry over the United Kingdom, but dull at some of the eastern and central stations at first; fine over the Continent also, as a whole, and very bright in many places, but raining at Rochefort. Considerable rain, thunder and lightning later, at some isolated stations in the south of France and in Austria.

Temperature somewhat irregularly distributed at first; below 60° over the northern and eastern parts of the United Kingdom, in Norway, and over Russia and Hungary; exceeding 70° on most parts of the Mediterranean coasts and at Constantinople, and exceeding 80° at Cagliari, La Calle, and Tunis. Highest daily maxima ranging from 70° to 77° over our Islands, 85° to 95° over Southern Italy, and 86° to 108° Faht. over Algeria.

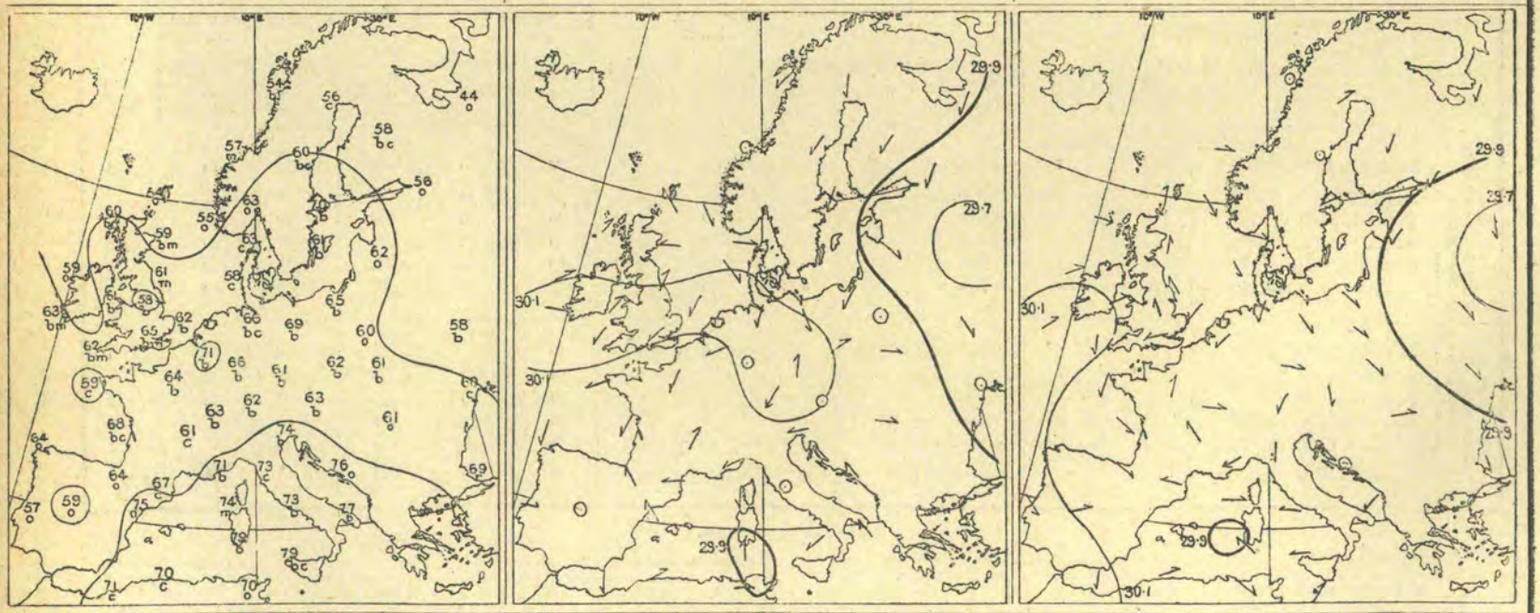
Wind very light and variable in most places, but rather fresh from between North-East and North-West over Scandinavia and the Baltic, and light from North-West over Poland, North-Easterly over the south of France in morning, variable later.

Barometer highest (30·1 ins. and more) over Norway and Scotland and also off the south-west of Ireland; lowest, 29·7 ins. and less over Central Russia, and 29·9 ins. and less over some parts of the Mediterranean; gradients slight and irregular. The northern high pressure area giving way later, that in the west spreading eastwards a little and increasing slightly in intensity.

Wednesday, 26th June.

Temperature and Weather. **8 a.m.**

Barometer and Wind. **8 a.m.** | **6 p.m.**



Weather still fine in most places, unsettled in France, and over Central Russia, with much cloud in some localities over the latter regions. Slight local showers in Ireland later, a good deal of rain with heavy thunderstorms in many parts of France, and rain over Southern and Central Russia.

Temperature risen in most places; still below 60° over Russia, Norway, and some parts of our Islands, but above 70° at 8 a.m., over Southern Europe, and on the various shores of the Mediterranean. Daily maxima exceeding 80° in several parts of England as well as in France and Germany, exceeding 90° over Southern Italy, and rising to as high as 106° to 116° Faht. over Central Algeria.

Wind still mainly Northerly over Northern Europe, the British Islands, North Sea, and the Baltic, Westerly over Southern Russia, extremely light and variable elsewhere. Becoming South-Westerly and Westerly on the Northern and North-Western coasts of the United Kingdom later, and variable over England.

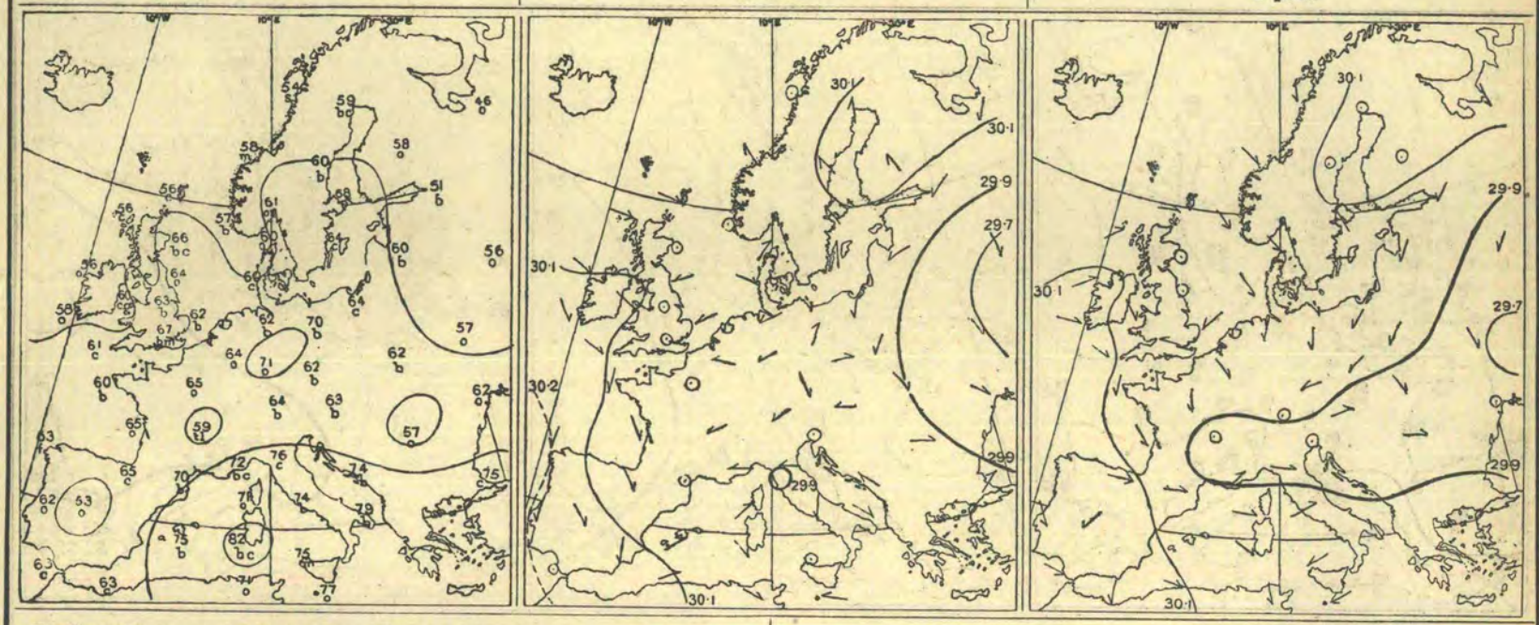
Barometer highest (30·1 ins. and more) in a band stretching from the Atlantic across Ireland, England, and Holland to Germany, and exceeding 30·0 ins. over Spain and Algeria also; below 29·7 ins. over Russia, and irregularly distributed elsewhere. Falling slightly in the north of our Islands later, but rising in Spain and on our south-western coasts.

II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 27th June.

Temperature and Weather. **8 a.m.**

Barometer and Wind. **8 a.m.** **6 p.m.**



Weather continuing very bright over Central Europe and in Italy; fine in most other places, but with a great deal of cloud, mist, and haze in many places; thunder lightning and rain in the south of France. Much rain in many parts of France and Austria later, with some thunderstorms and slight showers on our own extreme north-western coasts.

Temperature low over Russia, very irregularly distributed elsewhere; morning readings exceeding 70° over the Mediterranean, exceeding 80° at Cagliari, and high for the time of year over North-Western Europe also. Daily maxima again exceeding 80° in many parts of our Islands, France, and Austria, and exceeding 90° over Southern Italy, but not rising quite so high over Algeria as on the 26th. Maximum at Biskra, however, was 109°.

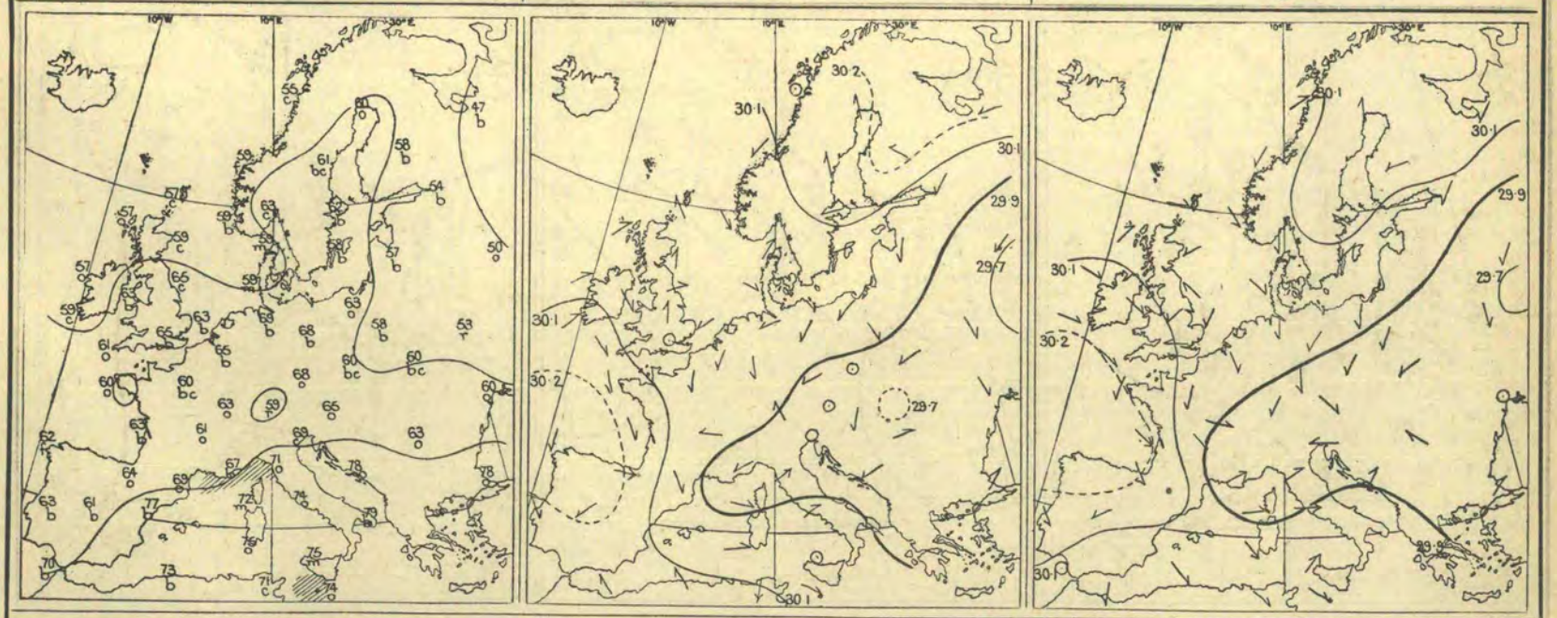
Wind very light everywhere; becoming more Northerly than of late over our Islands, the Bay of Biscay and Spain; very variable elsewhere. Freshening North-Westerly wind felt on the eastern shores of the North Sea later, and Westerly winds over the Gulf of Genoa.

Barometer, high over Northern, South-Western, and South-Eastern Europe, lower elsewhere, especially over Russia; distribution of pressure complex, but gradients very slight except over Russia; there moderate. Russian depression tending to move southwards later, and to fill up; no important change in other regions.

Friday, 28th June.

Temperature and Weather. **8 a.m.**

Barometer and Wind. **8 a.m.** **6 p.m.**



Weather fine and bright over Northern Europe and the Baltic, as well as in Spain and Algeria, less fair elsewhere, with a great deal of cloud and haze in many places, and rain at Munich and Kiev. Rain and some thunder over our midland counties later, and considerable thunderstorms over Switzerland and the south and east of France, as well as in parts of Germany, Austria, Italy, and Russia.

Temperature inclined to decrease over our Islands and their neighbourhood, and continuing low over Russia. Morning readings still above 70° on most of the Mediterranean coasts, but none above 80°. Daily maxima exceeding 80° at very few of our stations, and less high than of late over Southern Europe also; those in the south of Italy falling short of 90° as a whole, and those over Central Algeria not exceeding 102°.

Wind Northerly to Easterly over Scandinavia, the Baltic, Germany, and England, Northerly over France and Spain, South-Westerly on our extreme north-western coasts, varying greatly elsewhere. The South-Westerly wind in the north-west freshening a little later, and wind over Bay of Biscay becoming more Westerly; no other change of importance.

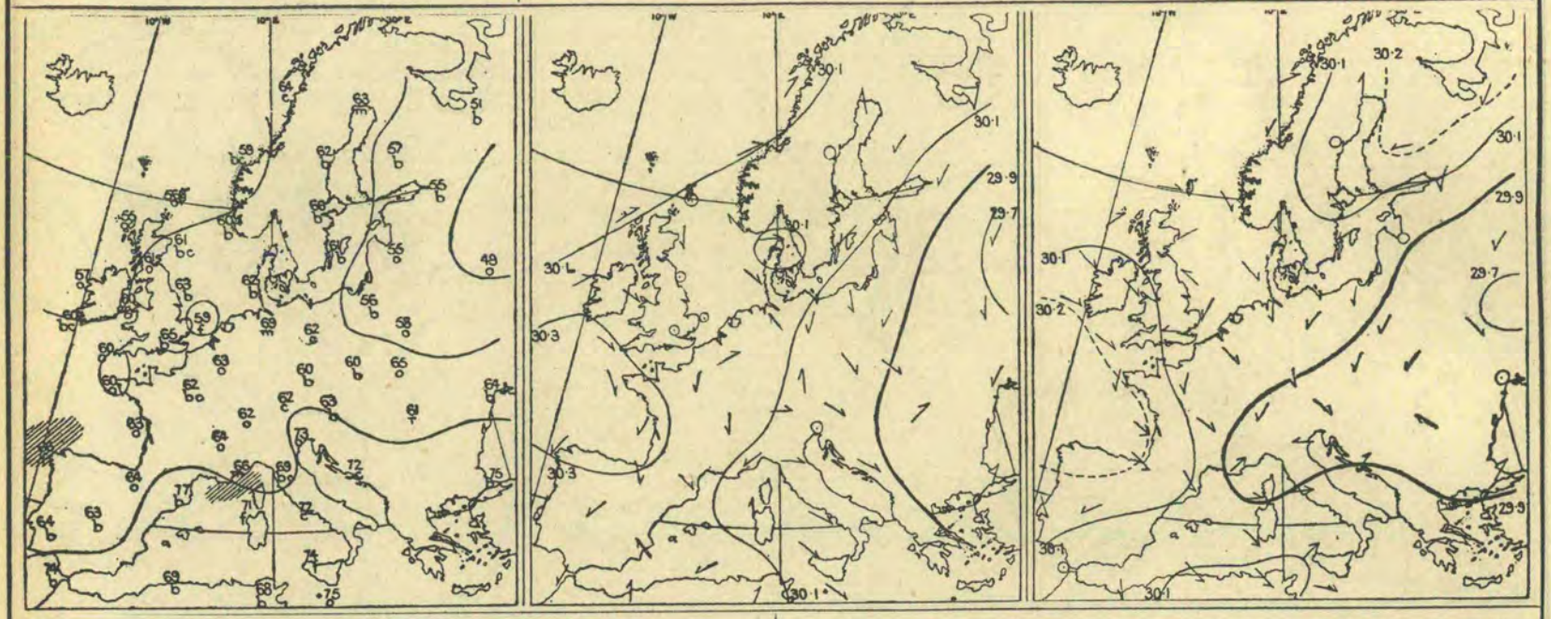
Barometer still high over Northern and South-Western Europe, low in the east and south-east, and apparently to the north-westward of our Islands also; gradients slight. Barometer subsequently rising on our north-western coasts, and the high-pressure area over Spain beginning to move northwards towards the United Kingdom. Depression over South-Eastern Europe growing shallower.

II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 29th June.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine generally, but dull in many parts of Ireland and Scotland as well as at some of the French, German, and Russian stations; rainy at Kiev. A little rain falling later in Ireland and the north of Scotland, and thunderstorms occurring in the Riviera and the south-west of Germany.

Temperature highest, 70° and upwards, over the Adriatic and Mediterranean; lowest, 50° or less, over Central Russia. Very little above 55° in the extreme north and north-west of our Islands. Subsequently rising to 80° in London, and to 90° or more over Central Algeria and the south of Italy, the highest readings of all being 102° at Laghouat and Brindisi, and 97° at Biskra and Cagliari.

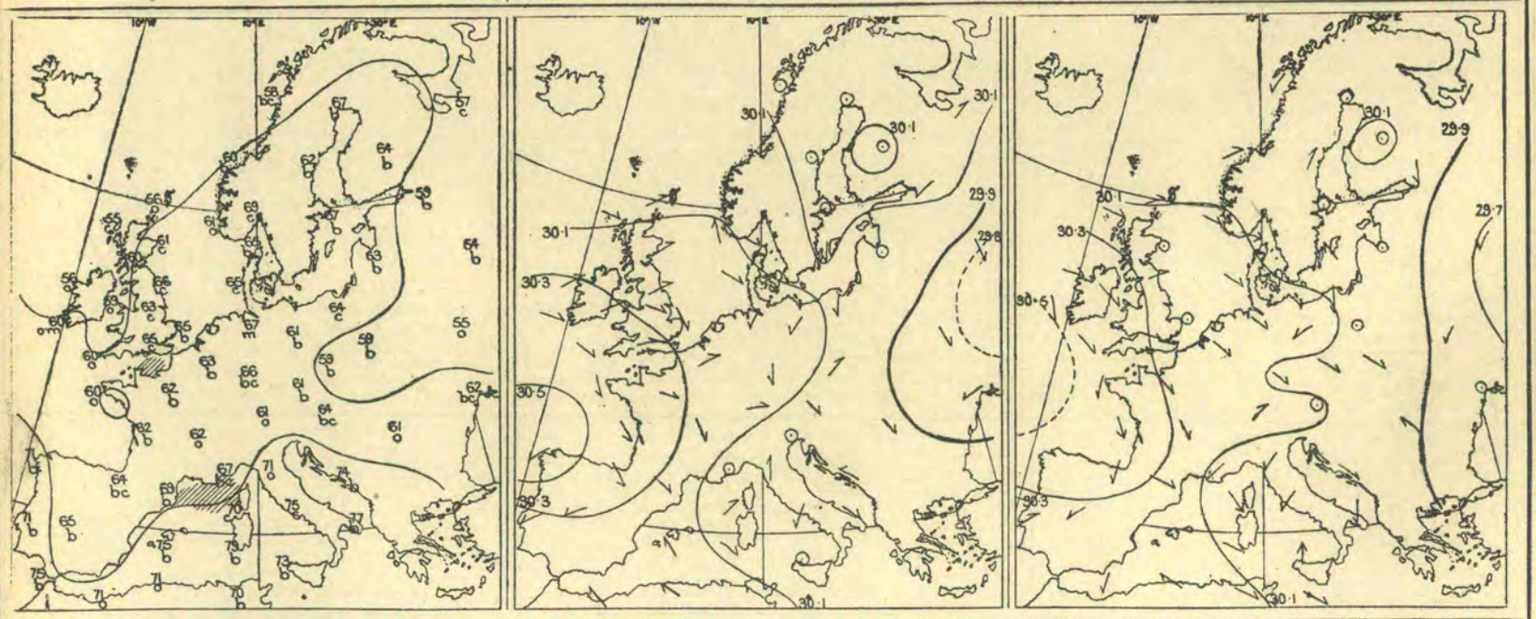
Wind light from the South-Westward in the extreme west of our Islands, from the North-Westward in the south of England, and from the Northward over France, Spain, Russia, the Baltic, and the greater part of Central Europe. Variable in most other localities, but light from the Southward in Algeria. Southerly or South-Westerly breezes extending later over all the more western and northern parts of the United Kingdom.

Barometer highest, 30·3 ins. and upwards, in an anticyclone lying over the Bay of Biscay; high, 30·2 ins. and upwards, in another system lying over the north of Russia. Lowest, 29·7 ins. and less, in a large depression lying over Central Russia. Large shallow depression travelling north-eastwards later along our extreme north-west coasts, and barometer falling a little at our western and northern stations.

Sunday, 30th June.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather still fine generally, but dull at some of our western and northern stations, as well as in South Germany, the east of France, and Western Algeria. Slight rain falling later in the north of Scotland and the west of Norway, as well as at some of the German stations. Thunderstorms occurring over Central and Southern Germany.

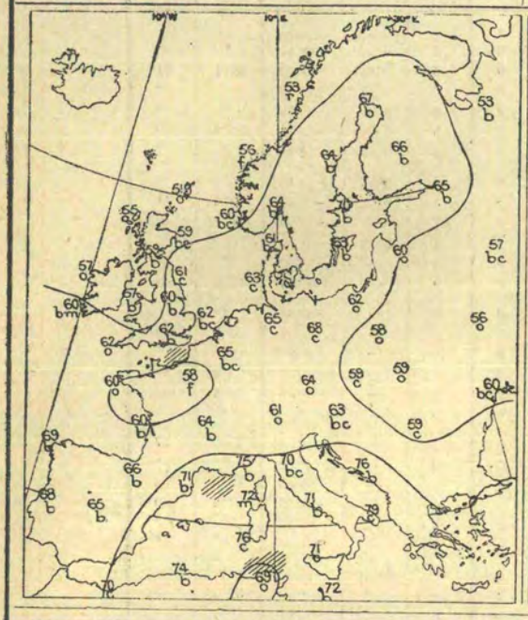
Temperature highest, 70° to 80°, at the Mediterranean stations; lowest, 60° or less, over Russia and the northern and north-western parts of the United Kingdom. Highest maxima over our Islands, 78° in London and 77° at Cambridge, but thermometer rising a little above 80° in some parts of France and Germany, and above 90° in Central Algeria and the south of Italy, the highest readings of all being 102° at Laghouat, and 95° at Biskra and Cagliari.

Wind light or moderate from the Westward over our Islands, the Netherlands, and the south of Denmark, from the North-Westward or Northward in France and Germany, and from the North-Eastward in Spain. Light and variable in nearly all other countries. Subsequently veering to the North-Westward in our Islands; fresh North-Easterly breezes setting in over Northern Italy, and light northerly breezes in Algeria.

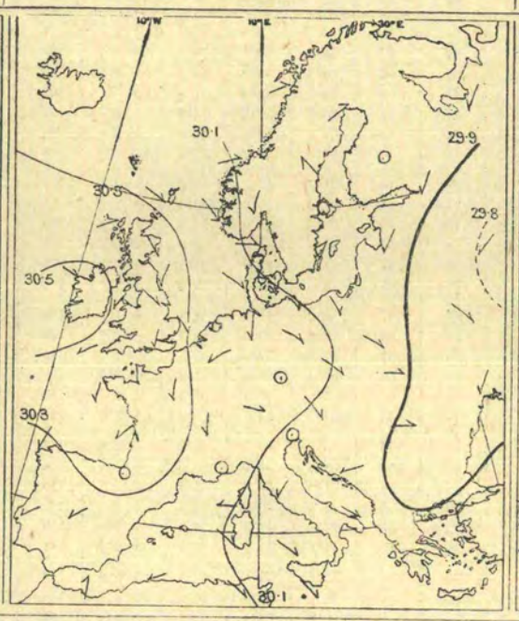
Barometer highest, 30·5 ins. and upwards, in an anticyclone lying over the Bay of Biscay and the north-west of Spain; high, 30·2 ins. and upwards, over Central Finland. Lowest, 29·8 ins. and less, in a large shallow area lying over Central Russia. Anticyclone over Bay of Biscay subsequently moving northwards over the western parts of the United Kingdom; shallow depression appearing over Southern Italy.

Monday, 1st July.

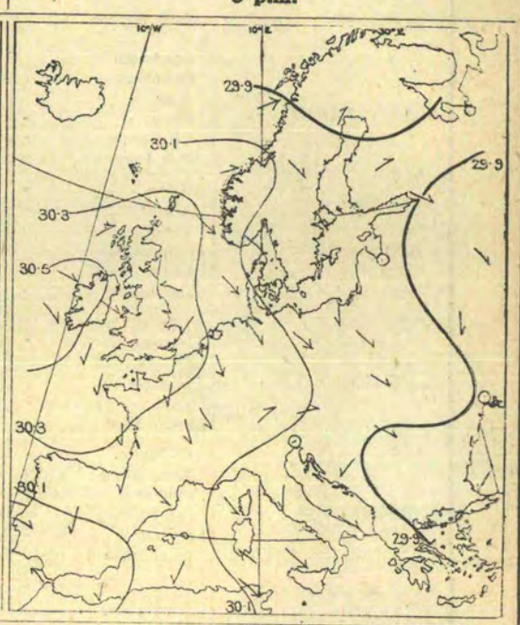
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather fair generally, but dull in many places, showery in the extreme north-west and north of our Islands, rainy at Copenhagen. Thunderstorms occurring later in Germany, as well as in some parts of the east and south of France.

Temperature highest, 70° and upwards, over the Adriatic and Mediterranean; lowest, 60° or less, over Russia, the west of Norway, and the west and north of our Islands. Thermometer not rising above 75° during day in any part of the United Kingdom, but exceeding 80° in the south of France, and exceeding 90° over Central Algeria and the south of Italy; the highest readings of all, 97° at Laghouat, 95° at Biskra, and 93° at Cagliari.

Wind Northerly (North-West to North-East) over the greater part of Europe, but South-Westerly in the north of Scandinavia, and the extreme north and north-west of our Islands, and Southerly in Western Algeria. Light and variable over Northern Russia.

Barometer highest, 30·5 ins. and upwards, in an anticyclone lying over our western coasts. lowest, 29·8 ins. and less, in a large shallow depression lying over Central Russia, but somewhat low, 30·0 ins. and less, in a long trough lying over Scandinavia, and 30·1 ins. and less, in a shallow area lying over the southern parts of the Iberian Peninsula. Very little change occurring during day.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

At the commencement of this week the distribution of pressure over Europe was not of any well-defined type, though readings were, as a whole, highest off the western coasts, lowest over Russia and the Mediterranean. The winds, though chiefly Northerly, were light and very variable, the weather fine and bright during the daytime, but thundery locally over the Continent at night. Over Algeria and the south of Italy the daily maximum temperatures were very high. Later on two high-pressure systems appeared, one over Northern Europe, the other over Spain and the Bay of Biscay, while a "col." uniting the two systems was stretched across the British Isles; over Russia and Central Europe the barometer was lower. The southern high pressure system then moved northwards, and at the close of the week lay over the United Kingdom and adjacent parts of the Atlantic—where readings exceeded 30·5 ins., while those over Russia and South-Eastern Europe were below 29·9 ins. Fine dry weather has been very prevalent over the United Kingdom, but thunderstorms have been frequent, and at times severe over many parts of the Continent.

III.—DATA from which the SUMMARY on page 151 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	60	47	58·7	49·1	53·6	+ 0·7	81	0	2	0·08	−0·41	*	*
	Stornoway	65	42	60·3	48·9	54·2	+ 0·5	85	0	5	0·18	−0·52	26·1	21
	Wick	71	45	65·7	49·4	57·0	+ 3·1	105	0	3	0·17	−0·28	*	*
	Lairg ℌ	77	41	65·7	47·2	55·8	+ 2·3	97	0	2	0·08	−0·55	*	*
	Glencarron ℌ	74	44	62·2	48·5	54·9	+ 1·4	90	0	5	0·28†	−1·06	24·0	19
	Fort Augustus ℌ	79	44	67·2	49·2	57·6	+ 1·5	109	0	4	0·06†	?	*	*
1. SCOTLAND, E.	Nairn	79	45	67·7	50·7	58·6	+ 2·1	116	0	2	0·05	−0·43	*	*
	Aberdeen	74	44	67·6	50·0	58·2	+ 1·5	113	0	1	0·01	−0·48	50·6	41
	Braemar ℌ	73	40	68·6	45·6	56·3	+ 2·4	100	0	1	0·01	−0·60	48·3‡	40‡
	Ochtertyre ℌ	76	43	72·6	48·9	59·9	+ 3·2	125	0	1	0·02	−0·68	*	*
	Leith	80	47	71·6	51·9	61·1	+ 3·5	134	0	0	—	−0·49	*	*
	Marchmont ℌ	77	43	70·9	49·4	59·4	+ 3·6	122	0	0	—	−0·69	53·3	44
2. ENGLAND, N.E.	Alnwick Castle	71	47	66·0	51·9	58·5	+ 1·9	116	0	0	—	−0·49	*	*
	Durham	80	45	72·8	49·6	60·4	+ 2·7	129	0	0	—	−0·51	46·3	39
	Shields	75	51	67·3	52·3	59·3	+ 1·6	121	0	0	—	−0·48	*	*
	Scarborough ℌ	74	51	69·3	54·4	61·3	+ 3·5	135	0	0	—	−0·59	50·9‡	43‡
	York	81	48	75·9	52·1	63·2	+ 3·8	148	0	0	—	−0·58	52·8	45
	Spurn Head	70	53	64·9	54·7	59·4	+ 1·0	122	0	0	—	?	*	*
3. ENGLAND, E.	Hillington ℌ	78	46	74·7	50·2	61·6	+ 2·2	137	0	0	—	−0·58	65·9	57
	Yarmouth	69	55	66·3	55·7	60·6	+ 0·9	130	0	0	—	−0·50	*	*
	Geldeston	76	48	71·8	51·6	61·0	+ 1·6	133	0	0	—	−0·43	76·0	66
	Cambridge	80	48	76·4	50·9	62·8	+ 1·4	146	0	0	—	−0·55	69·4	60
	Rothamsted	77	46	74·1	51·3	61·9	+ 0·6	139	0	0	—	−0·55	*	*
	Ingatestone	78	49	74·7	51·4	62·2	+ 0·6	141	0	0	—	−0·54	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	80	48	75·9	51·6	62·9	+ 3·0	146	0	1	0·16	−0·45	42·3‡	36‡
	Loughborough	82	48	78·0	53·0	64·6	+ 3·7	158	0	2	0·37	−0·16	52·0‡	45‡
	Cheadle ℌ	75	49	70·6	53·4	61·4	+ 2·2	136	0	0	—	−0·71	*	*
	Churchstoke ℌ	77	46	71·4	47·8	58·8	+ 0·2	118	0	0	—	−0·55	56·2	48
	Hereford ℌ	79	50	75·9	52·3	63·3	+ 2·7	149	0	0	—	−0·52	*	*
	Cirencester	77	45	73·1	50·4	61·0	+ 1·4	133	0	0	—	−0·53	65·0	55
	Oxford	79	51	75·0	52·9	61·2	+ 0·6	134	0	0	—	−0·55	66·3	58
5. ENGLAND, S.	London	80	50	77·9	54·7	65·5	+ 3·2	165	0	0	—	−0·49	62·4‡	55‡
	Strathfield Turgiss ℌ	81	48	77·1	49·6	62·4	+ 2·9	143	0	0	—	−0·50	*	*
	Dungeness	74	46	71·1	53·3	61·6	+ 1·2	137	0	0	—	−0·40	*	*
	Hastings (St. Leonard's)	77	51	72·3	56·4	63·8	+ 4·1	153	0	0	—	−0·40	78·1	69
	Southampton	84	52	78·9	54·5	65·9	+ 5·4	167	0	0	—	−0·49	74·9	66
	Hurst Castle	80	54	75·0	55·3	64·5	+ 5·0	158	0	0	—	−0·48	*	*
	Stowell ℌ	77	48	71·1	52·6	61·2	+ 1·9	134	0	0	—	?	62·3‡	55‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	72	50	63·6	52·0	57·4	+ 0·9	108	0	5	0·29†	−0·99	*	*
	Glasgow	74	48	68·0	51·5	59·2	+ 2·6	120	0	1	0·02	−0·72	42·3	35
	Ardrossan	71	48	66·6	51·7	58·6	+ 1·7	116	0	0	—	−0·65	*	*
	Glenlee ℌ	76	42	69·7	49·1	58·7	+ 2·6	117	0	1	0·01†	−0·84	*	*
	Douglas (Isle of Man)	70	49	67·7	53·3	60·0	+ 3·3	126	0	0	—	−0·58	58·3	49
7. ENGLAND, N.W.	Newton Reigny (Penrith)	74	42	69·5	46·3	57·1	0·0	106	0	0	—	−0·55	56·0	47
	Barrow-in-Furness	70	54	66·1	55·4	60·4	+ 2·0	129	0	0	—	−0·64	*	*
	Stonyhurst	73	50	70·3	51·7	60·4	+ 2·5	129	0	0	—	−0·90	61·0	52
	Blackpool ℌ	72	50	67·7	54·1	60·4	+ 1·4	129	0	0	—	−0·70	52·1	44
	Manchester	74	52	70·6	52·4	60·9	+ 1·6	132	0	0	—	−0·82	*	*
	Liverpool Obsy (Bidston)	73	53	66·7	55·1	59·5	0·0	123	0	0	—	−0·51	*	*
	Llandudno ℌ	71	53	67·2	54·2	60·3	+ 0·9	128	0	0	—	−0·51	35·0	30
	Holyhead	70	53	65·7	54·1	59·5	+ 1·3	123	0	1	0·01	−0·49	*	*
8. ENGLAND, S.W.	Llandovery	83	42	76·0	45·0	59·4	− 0·2	122	0	0	—	−0·79	*	*
	Pembroke	67	52	63·6	53·4	58·1	− 0·6	113	0	0	—	−0·50	69·5	60
	Arlington (N. Devon)	73	48	68·7	51·1	59·3	− 0·3	121	0	0	—	−1·00	*	*
	Cullompton ℌ	78	47	73·2	49·8	60·7	+ 0·4	131	0	0	—	−0·61	60·1	53
	Falmouth	73	52	66·8	54·5	60·2	+ 0·6	127	0	0	—	−0·69	58·5	52
	Plymouth	78	53	74·5	55·3	64·2	+ 3·5	155	0	0	—	−0·51	53·6	47
	Prawle Point	76	49	70·0	52·9	60·9	+ 2·5	132	0	0	—	?	*	*
9. IRELAND, N.	Malin Head	65	52	61·9	53·4	57·4	+ 1·4	108	0	3	0·06	?	*	*
	Londonderry	76	48	68·5	51·6	59·5	+ 2·0	123	0	1	0·02	−0·66	*	*
	Mullaghmore	70	49	63·7	52·6	57·8	− 1·0	111	0	2	0·08	−0·72	*	*
	Belmullet	67	51	61·7	53·3	57·2	+ 0·3	106	0	2	0·07	?	*	*
	Markree Castle	72	43	65·0	49·7	56·8	− 2·1	104	0	2	0·07	−0·67	32·1	27
	Brookeborough	74	44	66·8	49·6	57·6	− 1·3	109	0	1	0·03	?	*	*
	Armagh	73	43	68·2	50·1	58·5	− 0·3	116	0	1	0·02	−0·57	36·8	31
	Donaghadee	71	54	65·9	55·9	60·6	+ 3·1	130	0	1	0·01	−0·62	*	*
	Edgeworthstown	73	44	68·1	49·1	57·9	− 0·7	111	0	1	0·02	−0·78	*	*
10. IRELAND, S.	Dublin	73	51	69·6	53·9	61·2	+ 2·5	134	0	0	—	−0·48	42·4	37
	Parsonstown	72	44	68·6	50·7	59·0	+ 0·7	119	0	1	0·02	−0·59	32·9	28
	Kilkenny	74	44	69·9	48·9	58·7	0·0	117	0	0	—	−0·58	*	*
	Waterford	76	?44	72·4	48·3	59·5	− 0·3	123	0	0	—	−0·60	*	*
	Roche's Point	71	52	67·0	53·9	60·0	+ 0·1	126	0	0	—	−0·74	*	*
	Valencia	68	49	65·6	52·1	58·4	+ 0·7	115	0	3	0·07	−0·78	56·8	49
	Killarney												*	*
	Foynes	72	51	66·1	53·8	59·5	+ 1·5	123	0	2	0·03	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	67	52	64·7	56·3	60·2	+ 1·0	127	0	0	—	−0·48	*	*
	Jersey	77	55	69·1	57·1	62·7	+ 2·6	145	0	0	—	−0·47	88·4	79

Stations marked ℌ are in connection with the Royal Meteorological Society, and those marked ♋ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VI. No. 27.] *Third Series.* WEEK ENDING MONDAY, 8TH JULY, 1889. [*Price 6d.* [*Annual subscription, post paid*, £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 162.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	76	38	61·2	47·7	54·0	1 below.	84	+ 9	0	0	918	+210	514	+ 4
	1. SCOTLAND, EAST	76	38	65·5	48·0	56·1	1 below.	99	+ 1	0	0	1089	+112	548	+ 5
	2. ENGLAND, N.E.	80	41	66·2	51·3	58·2	1 below.	113	+ 7	0	0	1104	+ 79	488	+ 6
	3. ENGLAND, EAST	79	45	67·6	51·5	59·0	2 below.	119	+ 1	0	0	1277	+ 42	619	+112
	4. MIDLAND COUNTIES	83	41	70·2	50·8	59·8	1 below.	125	+ 9	0	0	1326	+ 67	564	+ 60
	5. ENGLAND, SOUTH	80	47	69·5	54·6	61·5	1 above.	137	+14	0	0	1437	+ 94	448	+ 75
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	75	36	67·2	50·6	58·3	1 above.	114	+13	0	0	1181	+136	375	− 23
	7. ENGLAND, N.W.	74	37	67·0	51·2	58·6	1 below.	116	+ 9	0	0	1204	+101	382	− 1
	8. ENGLAND, S.W.	81	43	68·2	54·0	60·6	0 (average).	130	+16	0	0	1332	+ 33	321	+ 88
	9. IRELAND NORTH	80	31	67·1	50·3	58·1	0 (average).	113	+13	0	0	1208	+ 82	297	− 53
	10. IRELAND, SOUTH	79	37	69·1	50·7	59·3	0 (average).	121	+14	0	0	1365 *	+ 55	225	− 14
	— CHANNEL ISLANDS	74	55	66·8	57·2	61·7	1 above.	138	+22	0	0	1491	+ 97	77	− 16

Rainfall. / Bright Sunshine.

	DISTRICTS. (See p. 162.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	3	5	1 more.	125	+ 9	19·5	−0·8	46	38	604	−124	25	− 5
	1. SCOTLAND, EAST	3	3	4 less.	97	+ 1	10·9	−4·1	46	38	764	− 45	31	− 2
	2. ENGLAND, N.E.	2	2	4 less.	87	− 6	10·1	−2·4	43	36	707	− 26	29	− 1
	3. ENGLAND, EAST	1	less than ½	5 less.	91	− 4	11·1	−0·8	38	33	721	−184	30	− 8
	4. MIDLAND COUNTIES	1	less than ½	6 less.	85	− 9	14·0	+0·3	44	38	675	−120	28	− 5
	5. ENGLAND, SOUTH	2	3	2 less.	90	0	11·1	−1·9	36	32	701	−141	29	− 6
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	1	less than ½	6 less.	102	− 4	18·4	−3·7	62	53	805	+ 40	33	+ 1
	7. ENGLAND, N.W.	1	1	6 less.	92	− 5	13·1	−3·5	58	50	773	− 2	32	0
	8. ENGLAND, S.W.	2	6	1 less.	90	−13	15·8	−4·4	41	36	852	− 53	36	− 2
	9. IRELAND, NORTH	2	1	6 less.	113	− 4	16·1	−0·8	53	47	673	− 68	28	− 3
	10. IRELAND, SOUTH	1	1	6 less.	102	− 9	16·4	−3·1	51	44	815	− 19	34	0
	— CHANNEL ISLANDS	2	8	3 more.	99	−12	12·9	−2·4	68	61	941	−126	39	− 5

General Remarks.

Weather continued fair and dry in all parts of the Kingdom until towards the close of the period, when it became unsettled, and rain fell in many places, chiefly, however, in the west and east of Scotland and the south-west of England. A thunderstorm occurred at Scarborough during the evening of the 7th.

Temperature has been a little below the mean in most of the "Wheat-producing Districts", but elsewhere it has not differed materially from the normal. The highest of the maxima were recorded at most stations either on the 5th or 6th, and ranged from 74° in "England, N.W." and the "Channel Islands", to 81° in "England, S.W." and 83° in the "Midland Counties". The absolute minima, which were (except in some parts of Scotland) generally registered during the early morning of the 8th, were decidedly low for the time of year. At Armagh the sheltered thermometer fell to the abnormally low value of 32° and an instrument exposed on the grass descended to 27°, while at Edgeworthstown the sheltered thermometer registered 31° and that on the grass 30°. Over Scotland the lowest readings varied from 36° to 38°, and over England from 37° in the north-west to 47° in the south. In the "Channel Islands" the minimum was 55°.

Rainfall has been rather more than the mean in "Scotland, N." and the "Channel Islands", but less in all other districts. Over Ireland and the greater part of England the fall has been extremely slight.

Bright sunshine has been less prevalent as a whole than it was last week, but shows an increase in Ireland. The percentage of the possible amount of duration ranged from 32 to 50 over England, from 38 to 53 in Scotland, and from 44 to 47 in Ireland; in the "Channel Islands" the percentage was 61.

Barometer and Wind.—During the earlier part of the period the distribution of pressure over our Islands continued anticyclonic and the winds were generally from between North and East, and light in force. As the week progressed, however, the high pressure area gave way, a rather deep depression appeared to the north-eastward of Scotland, and some subsidiary disturbances in different parts of Ireland and England. The wind consequently shifted to the Westward or North-Westward and increased somewhat in strength.

* This value has been altered slightly owing to the receipt of further information.

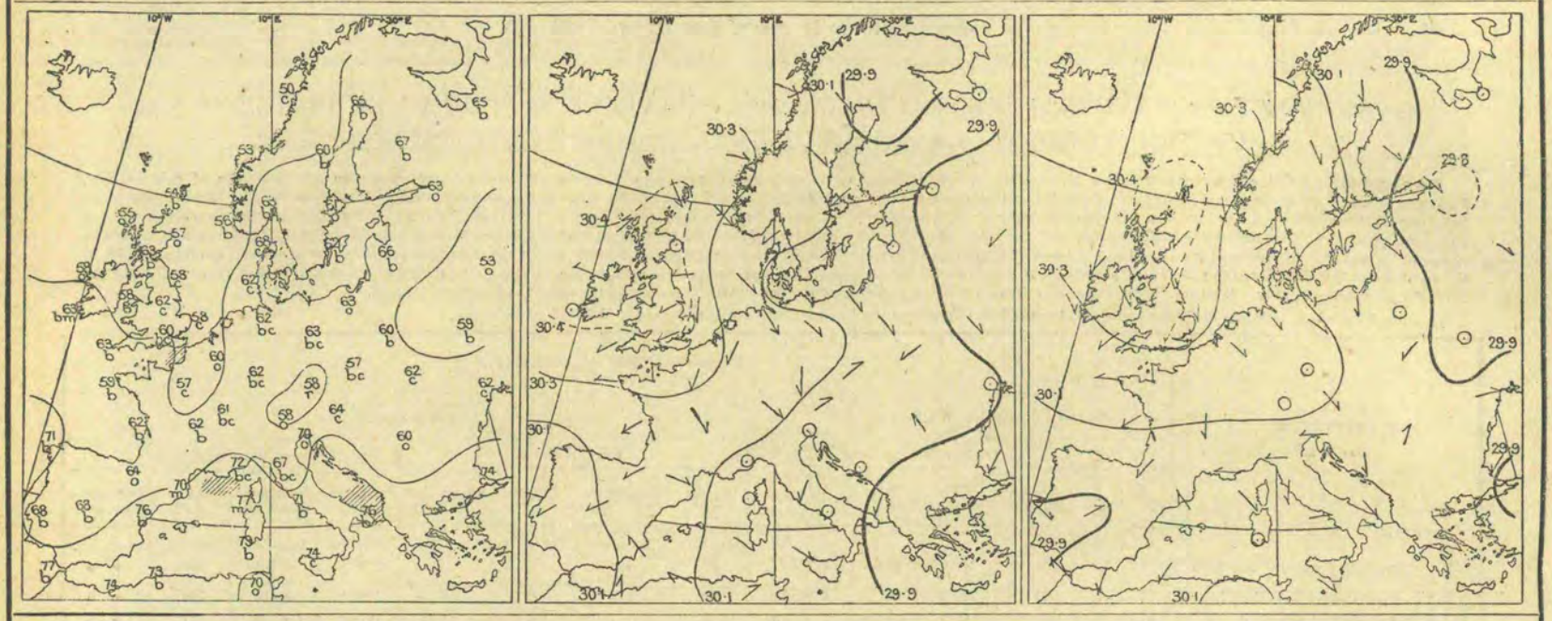
A 59352. 350.—7/89. Wt. 36. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 2nd July.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** — **6 p.m.**



Weather fine generally, but dull in many parts of Great Britain, as well as over Central Russia. Slight rain falling later in the west of Norway and also at some of the southern stations in Germany and France.

Temperature highest, 70° to 80° over the Mediterranean; high, 65° and upwards, over the northern parts of Russia and Germany. Lowest, 55° or less, in the Shetlands, Hebrides, and west of Norway. Subsequently rising above 80° at some of the French stations, and above 90° over Spain, Sardinia, and Central Algeria; the highest readings of all being 99° at Laghouat, 95° at Biskra, and 93° at Madrid and Cagliari.

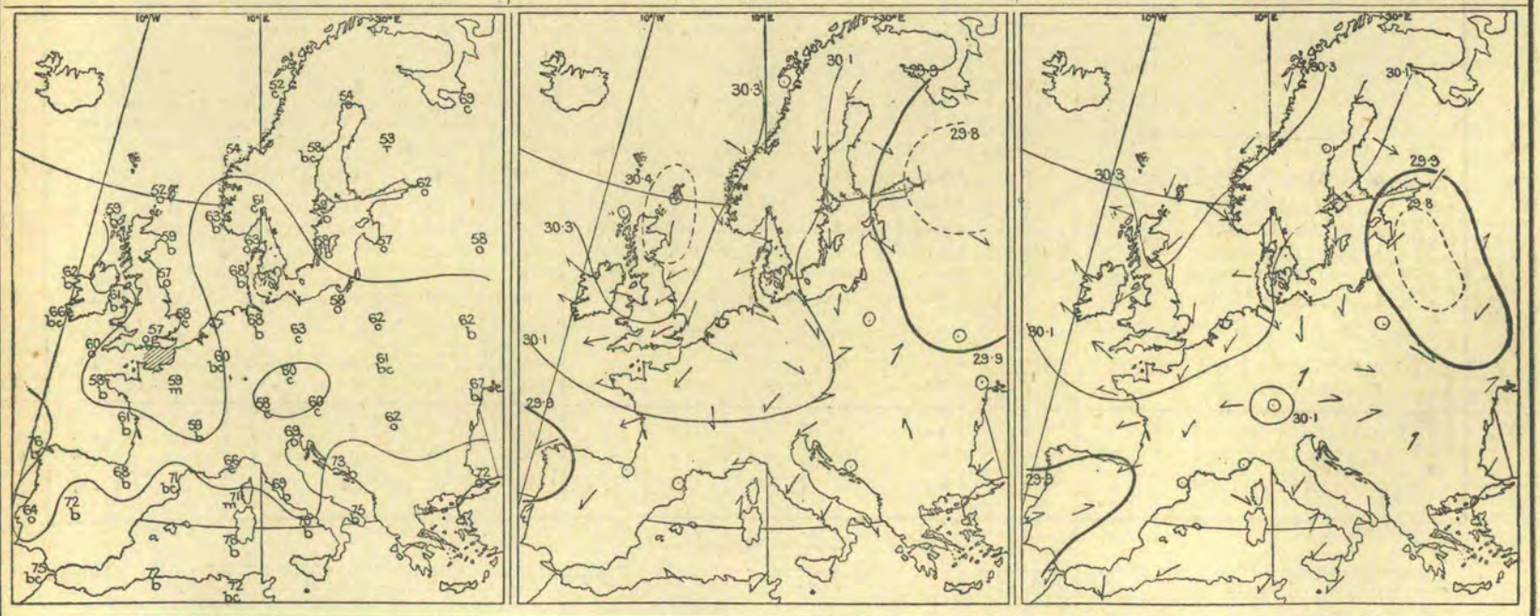
Wind North-Westerly over the greater part of Scandinavia, Denmark, and Central Europe but North-Easterly or Easterly over Spain, France, and the south of England, and South-Easterly or Southerly in Algeria; variable in Russia and the northern parts of the United Kingdom. Subsequently shifting to the Northward at most of the Algerian stations.

Barometer highest, 30·4 ins. and upwards, in an anticyclone lying over our Islands; lowest, 29·9 ins. and less, in a very large area lying over the greater part of Turkey and Russia, and also in a smaller area lying over Lapland; low, 30·0 ins. and less, in the south-west of Spain. Fall taking place generally later, and depression with readings below 29·8 ins. appearing near St. Petersburg.

Wednesday, 3rd July.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** — **6 p.m.**



Weather fine over the greater part of the Continent, but dull over Central England, as well as in the northern parts of Russia and Italy. Thunderstorms occurring later at Konigsberg and Biarritz, and heavy rain (0·5 inch) falling at Berlin.

Temperature highest, 70° to 80°, over Spain, the Adriatic, and the Mediterranean; lowest, 55° and less, over Finland, the north of Scandinavia, and some parts of Scotland. Subsequently rising a little above 80° in the south-west of France and above 90° over Scandinavia and the central parts of Spain and Algeria, the highest readings of all being 100° at Laghouat, 99° at Cape Béarn and Biskra, and 95° at Madrid.

Wind Northerly over the greater part of Northern and Central Europe and strong in force at the Swedish stations. North-Easterly over England, France, and Southern Europe, and Easterly in Ireland, but variable over Scotland, Austria, and the south of Russia, and light from the Southward in Western Algeria. South-Easterly breezes setting in later at some of the Irish and Scotch stations and South-Westerly breezes in Spain.

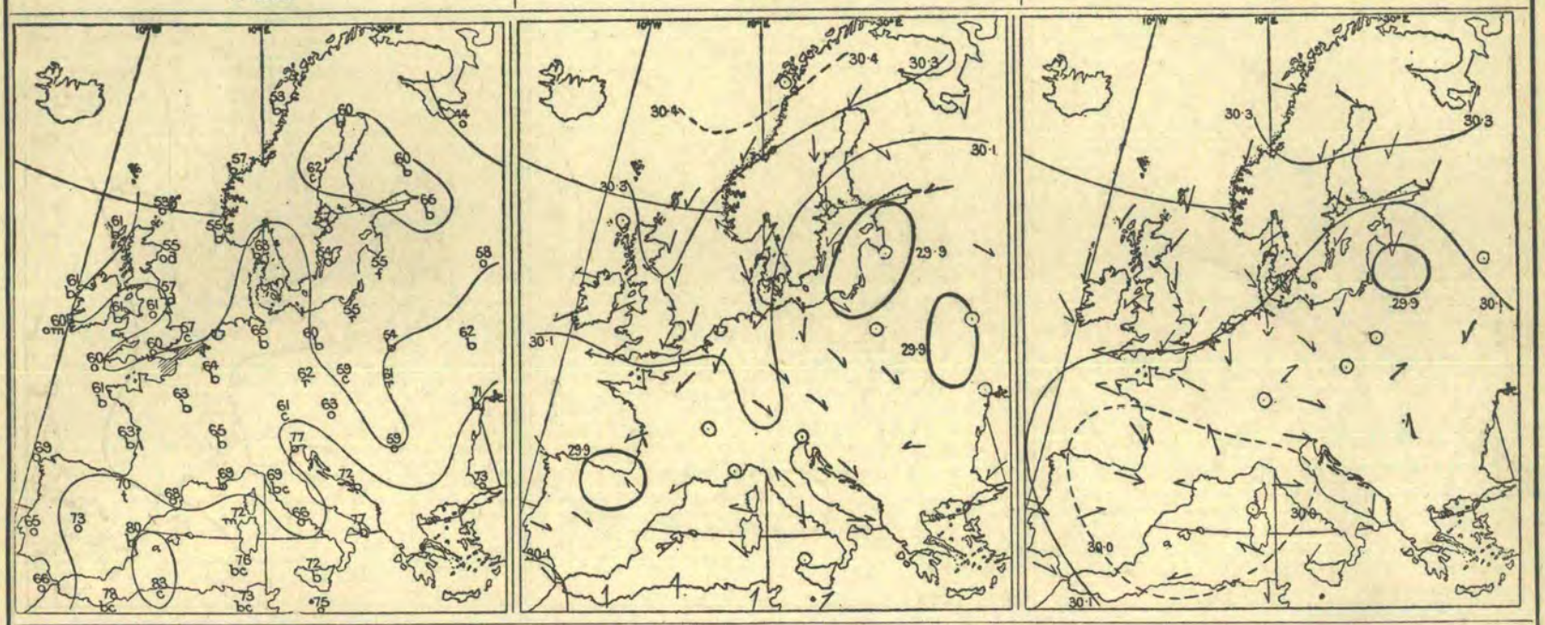
Barometer highest, 30·4 ins. and upwards, in an anticyclone lying over the north and east of Scotland. Lowest, 29·7 ins. and less, in a depression lying near St. Petersburg, but low, 29·9 ins. and less, in another disturbance lying over Portugal. Slight fall of barometer taking place later in most parts of Western Europe, and Portuguese depression spreading eastwards over Spain.

II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 4th July.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine generally, but dull in many parts of Great Britain, as well as over the Baltic. Rain falling at some of the German and Austrian stations. Showers falling later in the south of France.

Temperature, highest, 75° to 80° or a little above, over the Mediterranean and Adriatic. Lowest, 45°, or less, over Northern Russia, 55° or less, in the north and east of Scotland. Subsequently rising above 80° in many parts of France and Southern Europe, above 90° in the south-west of France, and above 100° over Central Algeria, the highest readings of all being 108° at Laghouat and 106° at Biskra.

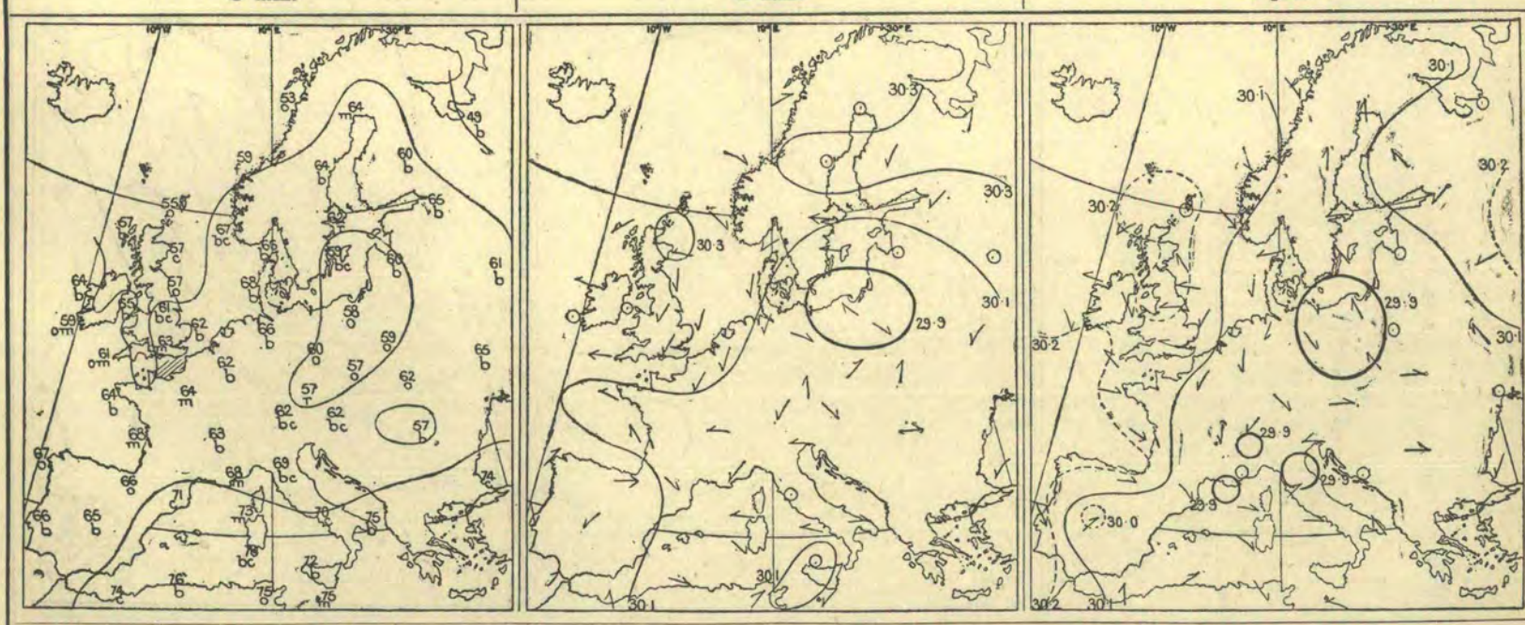
Wind light or moderate from the North-Eastward over the greater part of Northern and Western Europe, but strong from the Northward in Sweden, light or moderate from North-West over Spain and Central Europe, and variable in Italy and the south of France, but chiefly southerly in Algeria. Subsequently becoming variable in nearly all parts of France.

Barometer, highest, 30·4 ins. and upwards, in an anticyclone lying over the north-west of Norway and the neighbouring portions of the Atlantic. Lowest, 29·9 ins. and less, in three large but somewhat shallow depressions lying, respectively, over the Baltic provinces, the south-west of Russia, and the north of Spain. Russian and Spanish disturbances subsequently filling up, but depression over Baltic provinces becoming more strongly marked.

Friday, 5th July.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather dull at some of our northern and eastern stations, as well as in many parts of Germany, Austria, and Poland, with rain at Prague. Fair or fine in nearly all other localities. Thunderstorms occurring later in many parts of Germany, as well as at Clermont and the summit of the Puy de Dôme. Slight rain falling at some of the Scandinavian stations.

Temperature highest, 70° to 78°, over the Mediterranean and Adriatic; lowest, 60° or less, in the north of Russia. Subsequently rising to 80° at Loughborough, to a little above that point at some of the French stations, to 90° or upwards over Central Spain and the south of Italy, and to 100° or more over Central Algeria. Highest readings of all, 104° at Biskra, and 91° at Madrid and Cagliari.

Wind Easterly or North-Easterly in nearly all parts of Northern and North-Western Europe, but calms or light variable airs reported in Scandinavia. Light or moderate from the North-Westward in Spain and the south of France, and variable over Italy, Austria, the south of Russia, and the Mediterranean, but cyclonic circulation observed over North Germany. Subsequently becoming light and variable in the western parts of the United Kingdom.

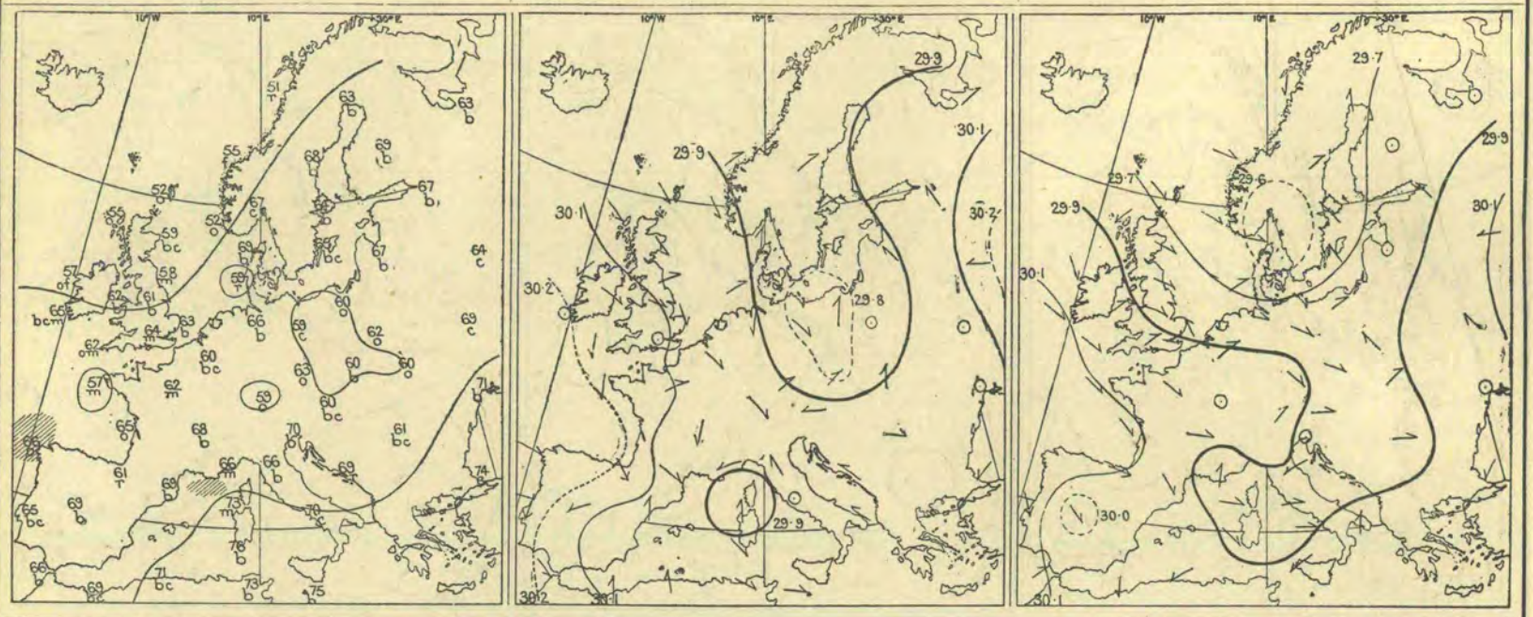
Barometer highest, 30·2 ins. to 30·3 ins. and upwards, over the whole of Northern and North-Western Europe; high, 30·2 ins. and upwards, over the northern and western parts of the Iberian Peninsula. Lowest, 29·9 ins. and less, in a shallow depression lying over North Germany, but small disturbances, with readings below 30·0 ins., lying in the neighbourhood of Tunis and Malta. Brisk fall of barometer taking place later over Northern Europe; small depressions appearing over Northern Italy and the south of France.

II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 6th July.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine and bright over Sweden and Northern Russia, as well as over the Mediterranean. Spain, and the greater part of France and the British Islands; becoming foggy in Brittany and the north-west of Ireland, dull and rainy at the extreme northern and north-western stations. Unsettled weather in north and north-west spreading southwards later, and rain falling over our northern and north-western districts, as well as at many of the Mediterranean stations and in Germany; thunder and lightning in many parts of France, Germany, and Austria.

Temperature giving way decidedly in extreme north and north-west, and low for time of year in east and south of France. Morning values ranging between 70° and 78° at many of the Mediterranean stations and on the western shores of the Black Sea, between 60° and 69° over Russia and Sweden, and between 59° and 65° over France; but below 60° in the north-west, north, and north-east of our Islands, and as low as 52° at Sumburgh Head and 51° at Christiansund. Daily maxima 70° to 79° over our Islands, below 70° over the greater part of Germany, and exceeding 90° in Algeria and Southern Italy.

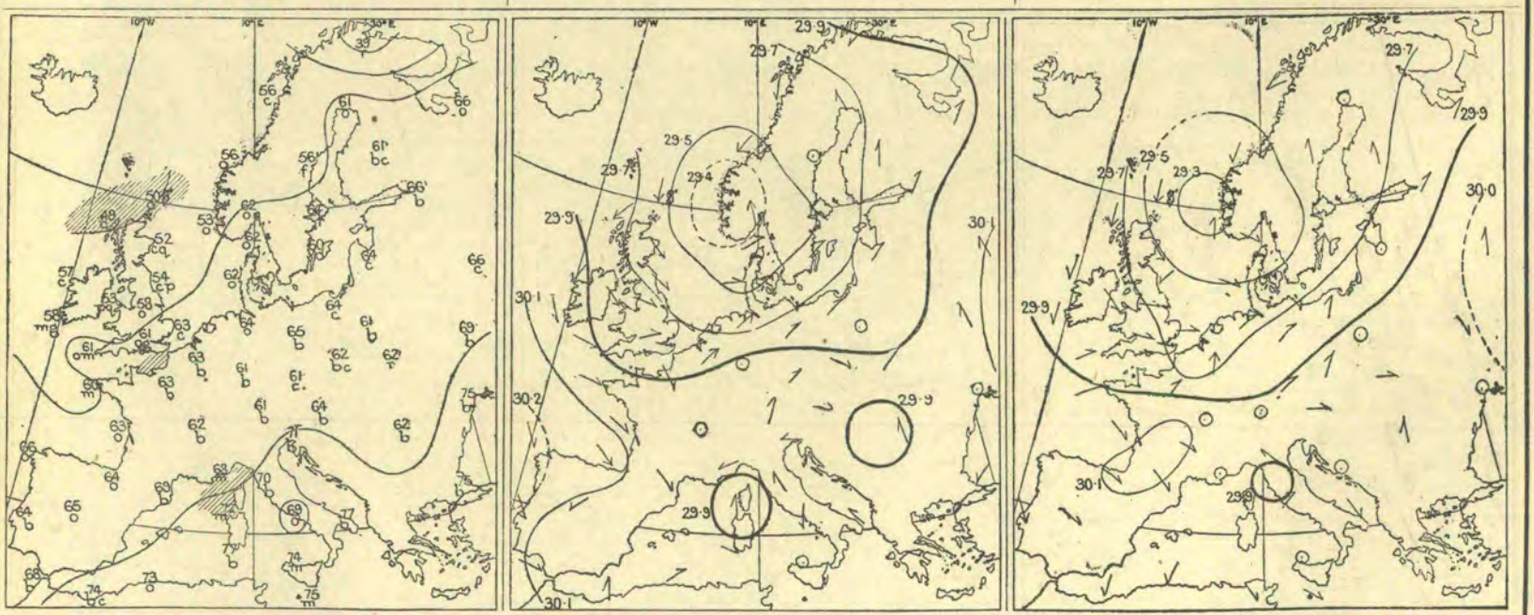
Wind light from between South and South-East over Finland and Western Russia, mainly Northerly (North-West to North-East) over Western Europe and the British Islands, North-Westerly in Germany, South-Westerly in Poland, Easterly in the south of France, and very variable elsewhere. Backing Westwards over the United Kingdom later, and freshening a little.

Barometer highest, 30·10 ins. to nearly 30·30 ins., over Western Europe, 30·0 ins. to 30·20 ins. over Russia; lower over the Baltic, Central Europe, and the Mediterranean; lowest of all, 29·8 ins. and less, in a depression over North Germany, and 29·9 ins. and less in another over Corsica. German depression moving north-westwards to south of Sweden later.

Sunday, 7th July.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather dull and unsettled over the Bay of Biscay, the British Isles, North Sea, and Scandinavia, cloudy over Western and Central Russia, fine over Germany, Central France, and Southern Europe. Rain falling later in most parts of Great Britain (heavily at Sumburgh Head and Scilly) as well as in the northern parts of France, the Netherlands, Scandinavia, and Finland; thunderstorms at some North German stations.

Temperature continuing to decrease over North-Western Europe and becoming low for time of year in many places. Still exceeding 70° on the shores of the Mediterranean and Black Sea, and ranging from 60° to 66° over Russia; below 60° over all but the southern parts of the British Islands, and below 50° in the Hebrides. Daily maxima less high generally than of late; exceeding 90° at very few of the Italian and Algerian stations, and exceeding 70°, so far as the British Islands are concerned, at the south midland and south-eastern stations only. Sharp frost over the north of Ireland during succeeding night, and minima in the shade as low as 31° at Edgeworthstown, 32° at Armagh, 37° at Parsonstown, 42° at York, and 43° at Shields. Becoming colder over south of England also.

Wind moderate to strong from North-East at Christiansund, from North on our north and north-western coasts, and from West in the south and south-east (gale at Dungeness); South-Westerly in Germany, Southerly over the Baltic and South of Norway; light, Southerly over Russia, very variable over Central, South-Eastern, and Southern Europe. Little change later beyond the lulling of the wind at Christiansund.

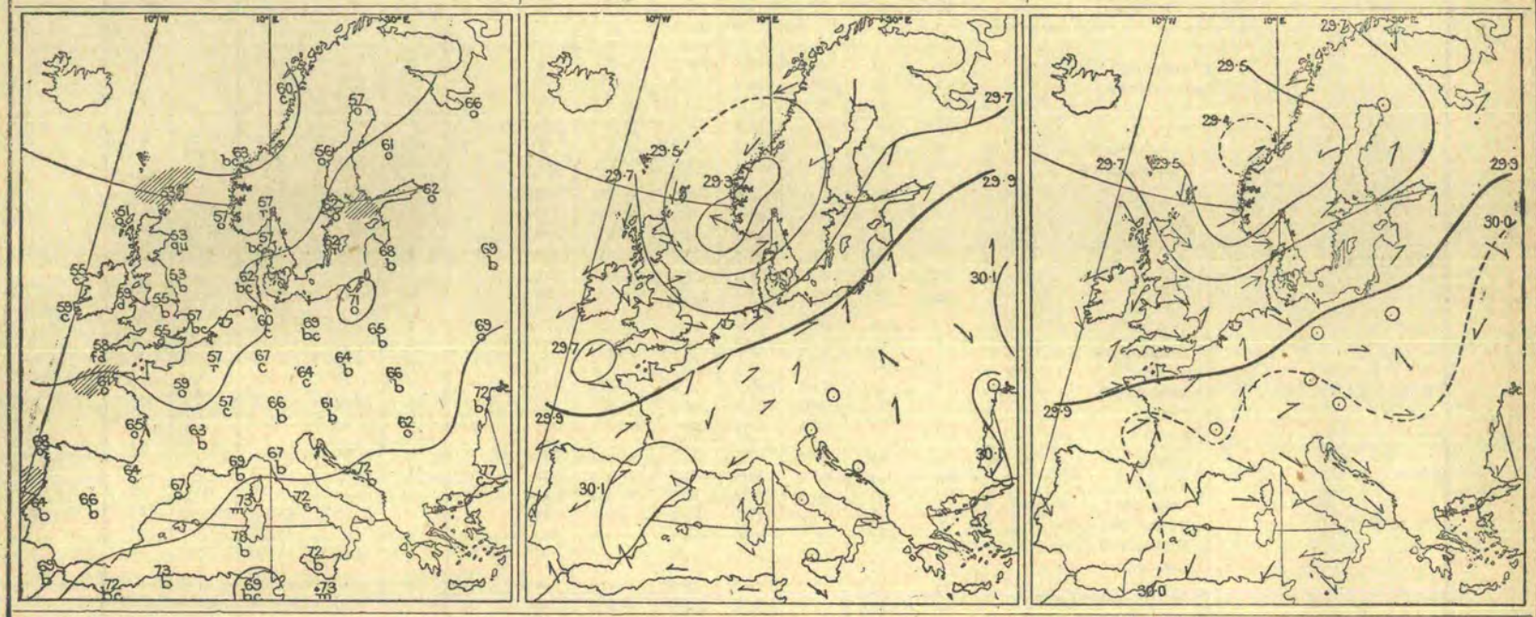
Barometer, after falling in most places, rising a little over Southern, Central, and Eastern Europe, falling decidedly elsewhere; highest, 30·0 ins. to 30·2 ins. over Western France, the Bay of Biscay, and Spain; 29·9 ins. to 30·1 ins. over Russia; lowest, 29·4 ins. and less, in the depression which had now reached the south-west of Norway from Sweden, and below 29·9 ins. both over Corsica and near Hermanstadt. Falling slightly and unsteadily over the British Islands later, where distribution of pressure became more complex.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 8th July.

Temperature and Weather. — 8 a.m.

Barometer and Wind. — 8 a.m. | 6 p.m.



Weather cold and very changeable over the British Islands, though temporarily fine in some central parts; cloudy and unsettled over nearly all the north-western half of Europe, fine in the south and south-east. Rain later in the west, north, and south of the British Islands, as well as over the greater part of Northern and North-Western Europe. No important change elsewhere.

Temperature continuing above 70° in morning at the Mediterranean stations and in the south of Russia; ranging from 60° to 68° over the northern half of Russia and Germany, and touching 71° at Neu Fahrwasser. Below 60° over Belgium, the whole of the United Kingdom, the North Sea, the south of Norway, and north of Sweden, and very little above 50° in the north of Scotland. Daily maxima in our Islands all below 70°, and below 60° in the northern parts of Scotland and Ireland. Exceeding 80° over Southern and Central Europe only, and exceeding 90° at very few of the extreme southern stations.

Wind moderate to strong from North and North-West in Scotland, from South-West in Germany, South over the Baltic, and North-East at Bodö. Light Northerly in Ireland, but South-Westerly in Brittany; very variable as a whole elsewhere. Varying much in direction over the south of England and Channel during the day.

Barometer rising a little over Central and Eastern Europe, unsteady and falling in the west and north. Highest over the southern and south-eastern countries, lowest in a complex depression over the south-west of Norway. Gradients rather steep over the North Sea. New small depression appearing at the mouth of the Channel, and undergoing considerable modifications later.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛ = a heavy gale; ⟹ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

At the beginning of the week an anticyclonic system lay directly over the United Kingdom, the lowest barometer readings being found over Russia. With the exception of our Islands, where variable breezes were reported, the prevailing winds were consequently Northerly. On Wednesday the 3rd, however, the barometer gave way over Western Europe, and the region of highest pressures was gradually transferred to our extreme northern and the Scandinavian coasts. Shallow depressions were at the same time found over Southern and Central Europe, and while North-Easterly winds were general in the northern and north-western countries, variable breezes were reported elsewhere. These conditions existed until the night of Friday the 5th, when a brisk decrease of pressure took place in the north, resulting on the 6th and 7th in the formation of a large cyclonic disturbance over Norway. The wind over Western Europe consequently backed to the North-Westward. At the close of the period the Scandinavian disturbance was filling up, but shallow depressions were beginning to approach the south-west of our Islands from the Atlantic, and the general conditions were more unsettled than for a long time past.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
June 17th, 1889	Waterford	73	36	68·6	44·4	55·7	− 2·3	96	0	1	0·05	−0·53	*	*
„ 24th, 1889	Waterford	76	46	72·1	49·7	60·1	+ 2·2	127	0	0	—	−0·53	*	*
July 1st, 1889	Killarney	73	44	67·2	50·6	58·3	− 0·3	114	0	1	0·01	?	*	*

III.—DATA from which the SUMMARY on page 157 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ℵ	61	47	57·1	49·3	52·9	− 0·3	76	0	3	1·34	+0·85	*	*
	Stornoway	65	43	58·6	46·3	52·2	− 1·9	71	0	4	0·28	−0·42	50·4	41
	Wick	66	38	60·0	47·9	53·5	− 1·2	81	0	5	0·62	+0·15	*	*
	Lairg ℵ	71	38	62·1	46·2	53·6	− 0·6	81	0	3	0·29	−0·40	*	*
	Glencarron ℵ	76	44	65·7	47·1	55·8	+ 1·6	97	0	3	0·53†	−0·83	42·2	34
	Fort Augustus ℵ	70	42	63·7	49·1	55·9	− 1·1	97	0	2	0·18†	?	*	*
1. SCOTLAND, E.	Nairn	67	38	61·9	47·7	54·3	− 2·9	86	0	3	0·34	−0·16	*	*
	Aberdeen	65	46	60·3	49·9	54·7	− 2·2	89	0	4	0·48	−0·04	38·0	31
	Braemar ℵ	76	41	68·7	45·1	56·1	+ 1·6	99	0	3	0·17	−0·45	51·8‡	42‡
	Ochtertyre ℵ	75	40	70·4	46·7	57·7	+ 0·3	110	0	2	0·02	−0·71	*	*
	Leith	75	44	66·4	50·3	57·8	− 0·6	111	0	2	0·36	−0·20	*	*
	Marchmont ℵ	74	39	65·1	48·3	56·1	− 0·2	99	0	3	0·11	−0·63	47·5	40
2. ENGLAND, N.E.	Alnwick Castle	71	43	62·6	49·3	55·5	− 1·9	95	0	2	0·21	−0·31	*	*
	Durham	80	41	69·5	50·6	59·5	+ 0·9	123	0	2	0·12	−0·44	43·0	36
	Shields	75	43	64·0	50·9	57·0	− 1·2	105	0	3	0·18	−0·32	*	*
	Scarborough ℳ	77	43	66·2	51·5	58·3	− 0·4	114	0	2	0·48	−0·12	? ‡	? ‡
	York	79	42	70·7	51·3	60·3	− 0·1	128	0	1	0·03	−0·55	?	?
	Spurn Head	75	48	64·1	54·0	58·7	− 0·7	117	0	1	0·05	?	*	*
3. ENGLAND, E.	Hillington ℳ	76	45	68·0	50·1	58·4	− 1·7	115	0	1	0·01	−0·59	42·4	37
	Yarmouth	68	48	64·3	53·9	58·7	− 2·0	117	0	1	0·02	−0·53	*	*
	Geldeston	77	46	66·5	50·2	57·8	− 2·5	111	0	1	0·10	−0·38	32·4	28
	Cambridge	79	45	70·0	51·1	59·9	− 2·4	125	0	0	—	−0·52	40·2	35
	Rothamsted	77	45	67·8	51·6	59·1	− 2·8	120	0	0	—	−0·58	*	*
	Ingatestone	77	49	68·7	52·0	59·8	− 2·6	125	0	1	0·06	−0·48	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	79	42	71·7	49·7	59·9	− 1·0	125	0	0	—	−0·61	‡	‡
	Loughborough	80	45	72·7	52·6	62·0	+ 0·3	140	0	0	—	−0·53	45·4‡	39‡
	Cheadle ℳ	75	44	69·0	50·1	58·9	− 0·9	118	0	2	0·03	−0·68	*	*
	Churchstoke ℳ	77	41	69·4	46·9	57·4	− 2·0	108	0	2	0·11	−0·45	47·7	41
	Hereford ℳ	83	43	72·1	51·2	60·9	− 0·4	132	0	1	0·01	−0·51	*	*
	Cirencester	78	49	68·1	51·9	59·4	− 1·0	122	0	1	0·01	−0·65	34·9	31
	Oxford	78	49	68·7	53·0	60·3	− 0·6	128	0	0	—	−0·57	39·0	34
5. ENGLAND, S.	London	79	51	70·6	55·1	62·3	− 0·5	142	0	1	0·09	−0·40	33·6‡	29‡
	Strathfield Turgiss ℳ	79	47	70·5	52·3	60·8	+ 0·2	132	0	2	0·13	−0·37	*	*
	Dungeness	74	50	67·7	54·3	60·5	− 0·6	130	0	4	0·33	−0·07	*	*
	Hastings (St. Leonard's)	74	52	68·3	54·1	60·7	+ 0·2	131	0	2	0·48	+0·07	49·8	44
	Southampton	80	50	72·2	55·6	63·3	+ 2·2	149	0	2	0·21	−0·30	33·9	30
	Hurst Castle	75	54	70·1	57·6	63·4	+ 2·9	150	0	2	0·24	−0·25	*	*
	Stowell ℳ	74	49	67·4	53·0	59·7	− 0·2	124	0	2	0·27	?	27·0‡	24‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	75	41	65·6	48·7	56·6	− 0·2	102	0	2	0·04†	−1·28	*	*
	Glasgow	71	41	67·0	51·4	58·7	+ 1·3	117	0	2	0·09	−0·69	52·2	44
	Ardrossan	72	49	67·4	52·4	59·4	+ 1·8	122	0	0	—	−0·65	*	*
	Glenlee ℵ	73	36	69·2	47·0	57·3	+ 0·6	107	0	1	0·02†	−0·96	*	*
	Douglas (Isle of Man)	73	47	66·8	53·3	59·6	+ 2·8	123	0	1	0·04	−0·56	71·3	61
7. ENGLAND, N.W.	Newton Reigny (Penrith)	73	37	68·3	43·9	55·6	− 2·2	95	0	1	0·24	−0·37	68·0	57
	Barrow-in-Furness	71	49	66·0	53·4	59·3	+ 0·6	121	0	1	0·04	−0·62	*	*
	Stonyhurst	73	43	68·1	50·8	58·9	+ 0·3	118	0	1	0·08	−0·89	56·3	48
	Blackpool ℳ	73	47	68·1	51·8	59·4	− 0·2	122	0	1	0·10	−0·57	61·2	52
	Manchester	74	41	68·9	50·6	59·1	− 0·8	120	0	0	—	−0·86	*	*
	Liverpool Obsy (Bidston)	73	48	67·0	53·4	59·7	− 0·5	124	0	2	0·05	−0·55	*	*
	Llandudno ℳ	73	48	64·7	52·8	58·3	− 1·8	114	0	1	0·04	−0·55	47·1	41
	Holyhead	70	48	65·0	52·7	58·4	− 0·3	115	0	3	0·04	−0·46	*	*
8. ENGLAND, S.W.	Llandovery	81	43	73·9	49·9	61·1	+ 0·8	134	0	1	0·07	−0·74	*	*
	Pembroke	67	52	63·4	55·0	58·9	− 0·7	118	0	1	0·06	−0·45	44·9	39
	Arlington (N. Devon)	73	50	67·6	52·6	59·6	− 0·9	123	0	2	0·63	−0·38	*	*
	Cullompton ℳ	80	48	70·1	51·9	60·4	− 0·9	129	0	2	0·70	+0·08	34·2	30
	Falmouth	71	52	66·3	56:0	60·8	+ 0·5	132	0	2	1·72	+1·03	44·1	39
	Plymouth	78	53	72·2	57·9	64·6	+ 3·1	158	0	1	0·39	−0·15	41·6	37
	Prawle Point	70	52	64·1	54·7	59·1	− 0·1	120	0	2	0·72	?	*	*
9. IRELAND, N.	Malin Head	65	48	60·1	53·4	56·5	0·0	102	0	2	0·17	?	*	*
	Londonderry	80	46	72·1	50·8	60·7	+ 2·5	131	0	2	0·13	−0·59	*	*
	Mullaghmore	73	48	66·6	54·6	60·2	+ 0·8	127	0	2	0·05	−0·78	*	*
	Belmullet	74	44	67·1	53·6	59·9	+ 2·7	125	0	2	0·03	?	*	*
	Markree Castle	76	33	68·2	45·6	56·1	− 3·3	99	0	3	0·09	−0·65	53·1	49
	Brookeborough	76	35	69·8	47·3	57·8	− 1·8	111	0	2	0·05	?	*	*
	Armagh	77	32	68·5	47·4	57·2	− 2·2	106	0	3	0·05	−0·59	52·3	45
	Donaghadee	67	50	63·3	53·4	58·0	+ 0·2	112	0	1	0·06	−0·46	*	*
	Edgeworthstown	73	31	68·4	46·3	56·6	− 2·8	102	0	1	0·05	−0·77	*	*
10. IRELAND, S.	Dublin	78	44	68·1	52·6	59·8	+ 0·2	125	0	2	0·14	−0·35	57·8	50
	Parsonstown	77	37	71·9	47·0	58·6	− 0·3	116	0	1	0·01	−0·64	53·8	46
	Kilkenny	79	42	70·4	48·6	58·7	− 0·7	117	0	1	0·11	−0·42	*	*
	Waterford	78	46	70·1	49·7	59·2	− 1·2	120	0	1	0·19	−0·42	*	*
	Roche's Point	71	48	65·9	53·0	59·0	− 1·5	119	0	1	0·20	−0·53	*	*
	Valencia	73	49	67·9	52·4	59·6	+ 1·1	123	0	0	—	−0·88	41·9	37
	Killarney	75	45	69·1	50·2	59·0	− 0·2	119	0	1	0·01	?	*	*
	Foynes	76	47	69·5	52·2	60·3	+ 1·6	128	0	2	0·07	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	67	56	64·9	57·0	60·7	+ 0·8	131	0	2	1·53	+1·04	*	*
	Jersey	74	55	68·7	57·3	62·6	+ 1·7	144	0	1	0·09	−0·40	67·5	61

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ℵ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in hose districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VI. No. 28.] *Third Series.* WEEK ENDING MONDAY, 15TH JULY, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 168.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	68	35	59·1	45·6	51·9	3 below.	69	−13	0	0	987	+192	514	+ 4
	1. SCOTLAND, EAST	75	42	60·8	47·6	53·8	3 below.	83	−20	0	0	1172	+ 87	548	+ 5
	2. ENGLAND, N.E.	73	41	64·4	51·9	57·7	2 below.	110	− 3	0	0	1213 *	+ 68	489 *	+ 7
	3. ENGLAND, EAST	74	44	68·9	54·6	61·3	1 below.	135	+11	0	0	1412	+ 48	619	+112
	4. MIDLAND COUNTIES	76	42	66·8	52·9	59·4	2 below.	122	0	0	0	1448	+ 68	564	+ 60
	5. ENGLAND, SOUTH	77	47	68·3	56·1	61·8	0 (average).	139	+10	0	0	1576	+102	448	+ 75
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	69	35	62·5	49·4	55·5	2 below.	95	−10	0	0	1276	+124	375	− 23
	7. ENGLAND, N.W.	70	39	64·6	52·2	58·0	2 below.	112	+ 1	0	0	1316	+101	382	− 1
	8. ENGLAND, S.W.	75	44	65·5	53·5	59·1	2 below.	120	+ 2	0	0	1452	+ 38	321	+ 88
	9. IRELAND NORTH	72	36	62·5	49·6	55·6	3 below.	95	− 9	0	0	1303	+ 74	297	− 53
	10. IRELAND, SOUTH	75	40	65·3	48·5	56·6	3 below.	102	−10	0	0	1466 *	+ 46	225	− 14
	— CHANNEL ISLANDS	71	54	66·9	56·7	61·4	0 (average).	136	+14	0	0	1627	+111	77	− 16

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 168.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	4	4	2 less.	129	+ 9	19·9	−1·0	28	23	634 *	−125	25	− 5
	1. SCOTLAND, EAST	4	12	5 more.	101	+ 1	12·1	−3·5	27	23	791	− 62	31	− 3
	2. ENGLAND, N.E.	5	10	4 more.	92	− 5	11·1	−2·0	24	21	739 *	− 43	29	− 2
	3. ENGLAND, EAST	6	23	17 more.	97	− 2	13·4	+1·0	34	30	755	−201	30	− 8
	4. MIDLAND COUNTIES	6	18	12 more.	91	− 7	15·8	+1·5	26	23	701	−138	28	− 5
	5. ENGLAND, SOUTH	6	10	5 more.	96	+ 2	12·1	−1·4	27	24	728	−164	29	− 7
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	4	14	7 more.	106	− 5	19·8	−2·8	28	24	833	+ 28	33	+ 1
	7. ENGLAND, N.W.	5	10	3 more.	97	− 4	14·1	−3·2	33	28	806	− 13	32	0
	8. ENGLAND, S.W.	5	13	6 more.	95	−12	17·1	−3·8	35	31	887	− 68	35	− 3
	9. IRELAND, NORTH	5	12	5 more.	118	− 4	17·3	−0·4	34	30	707	− 69	28	− 2
	10. IRELAND, SOUTH	3	4	3 less.	105	−11	16·8	−3·3	49	43	864	− 9	34	0
	— CHANNEL ISLANDS	6	8	3 more.	105	−10	13·7	−2·1	31	28	972	−153	39	− 6

General Remarks.

Weather has been in an unsettled condition very generally. Frequent falls of rain have been experienced, with occasional thunder and lightning. The rainfall which occurred over south-eastern England on the 12th was extremely heavy in some localities; at Cambridge the fall amounted to 2·15 ins., and at Rothamsted to 3·06 ins. On the following day heavy rain was experienced in different parts of central England. At Henley-in-Arden the abnormally large amount of 3·65 ins. fell in 65 minutes.

Temperature has just equalled the mean in "England, S." and the "Channel Islands", but in all other districts it has been less. The highest of the maxima, which were registered on somewhat irregular dates, ranged from 68° in "Scotland, N." to 77° in "England, S." The lowest of the minima were recorded in most places on the 9th, and varied from 35° in the north and west of Scotland to 47° in "England, S." and 54° in the "Channel Islands".

Rainfall has been less than the mean in "Scotland, N." and "Ireland, S.", but more in all other districts; in the "Midland Counties" and "England, E." the excess has been very large.

Bright sunshine shows a considerable and general decrease, the percentage of the possible amount of duration having ranged from 21 in "England, N.E." to 31 in "England, S.W." and to 43 in "Ireland, S."

Barometer and Wind.—The changes in the distribution of barometrical pressure have been somewhat irregular. Small shallow depressions have appeared in all parts of our Islands, and have generally travelled eastwards or north-eastwards. The winds have been chiefly light or moderate in force and variable in direction; in the southern parts of the Kingdom they were mostly from the South-Westward or Westward, while in the north they occasionally blew from the Eastward.

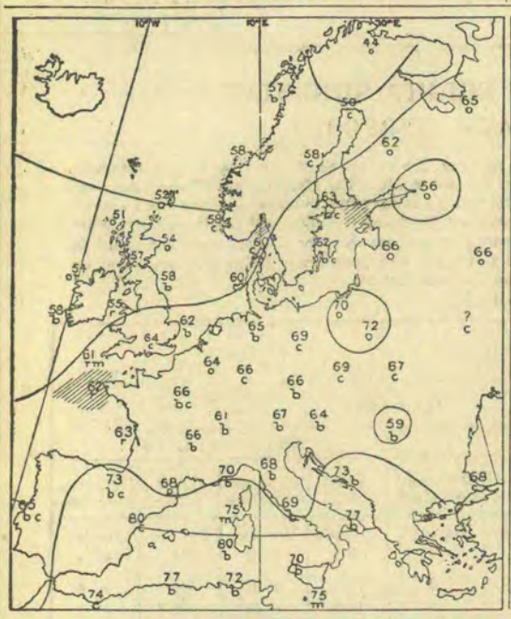
* This value has been altered owing to the receipt of further information.

59422. 350.—7/89. Wt. 36. E. & S.

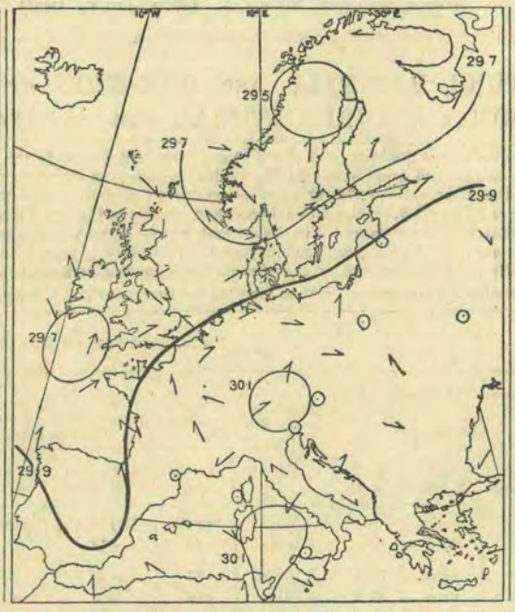
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 9th July.

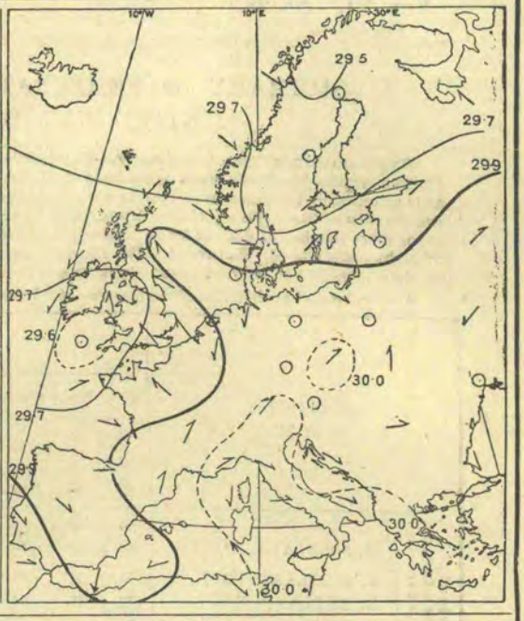
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather fine, bright, and warm over South-Western, Southern, and South-Eastern Europe, cloudy, showery, and changeable in the west, north-west, and north, the rainfall having been considerable in the south-west and west. Showers very prevalent over our Islands later, and fall becoming general over the Netherlands; large quantities recorded in the north of France, with thunder and lightning in many places.

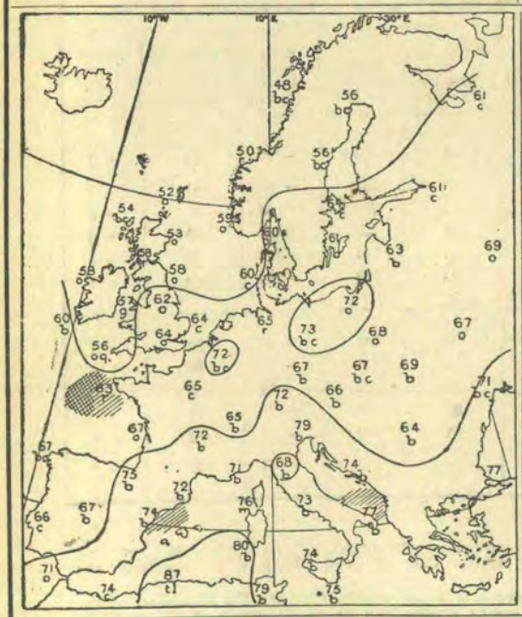
Temperature fallen somewhat over Northern Europe and in Ireland, where it was low, risen elsewhere. Morning readings varying from 70° to 80° on the shores of the Mediterranean, and exceeding 70° in some parts of Germany, Austria, and the south of Russia; above 60° in the south of our Islands, but as low as 50° in Central Ireland, and 52° to 55° over the northern half of Scotland and at the northern extremity of the Gulf of Bothnia. Daily maxima exceeding 70° at our inland stations, and exceeding 80° over Germany and France, and 90° over Algeria and Southern Italy.

Wind very variable over the southern and south-eastern countries, mainly South-Westerly over France, the Netherlands, and Baltic, with cyclonic circulations round depressions lying over the north of Scandinavia and off our south-western coasts. North-Easterly airs in Scotland at first, becoming more decided later.

Barometer highest, 29·9 ins. to 30·15 ins, over Central, Southern, and Eastern Europe; lowest, 29·7 ins. and less, in a depression at the mouth of St George's Channel, and 29·5 ins. and less in another one over the north of Scandinavia. Latter disturbance passing away northwards during day, but former moving little and undergoing some modifications both in form and intensity.

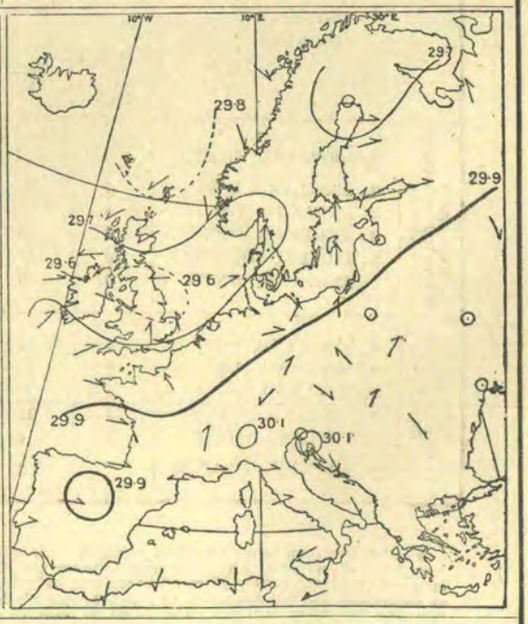
Wednesday, 10th July.

Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**

6 p.m.



Weather more showery and unsettled in the United Kingdom than on the 9th; large falls of rain still recorded in many parts of our Islands and the north of France, and considerable quantities over the Netherlands, North Germany, and the shores of the Baltic and Gulf of Bothnia. Thunder and lightning in the north of France.

Temperature fallen decidedly over Norway and Northern Europe, risen a little over Germany and France; morning readings exceeding 80° at some Mediterranean stations, and exceeding 70° at others as well as over the south of Russia and several parts of Germany and Austria; but less than 50° in the north of Norway, and very little above 50° in the extreme north and north-west of our Islands. Daily maxima of rather more than 70° registered at our inland stations, 80° and more in several parts of France and Germany, and 90° and more in the south of Italy and over Algeria.

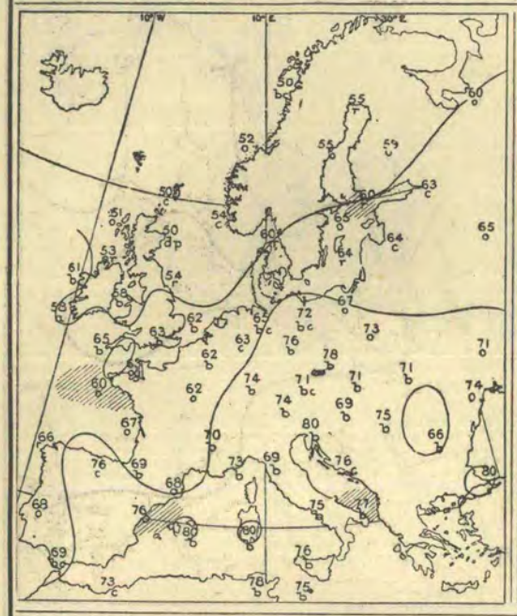
Wind chiefly Southerly over Spain, France, and North Germany; cyclonic circulation of moderate winds prevailing over the British Islands, Northern Europe, and the Baltic. North-Easterly breezes in extreme north-west; that over the British Isles subsequently spreading Eastwards over the North Sea, and an independent system beginning to form round the Skager Rack.

Barometer highest, 29·9 ins. to 30·1 ins. and more, over Southern, Central, South-eastern, and Eastern Europe, lowest in depressions lying over Northern Europe and the western parts of the British Isles; gradients slight to moderate. British depression subsequently spreading eastward to Norway and Denmark.

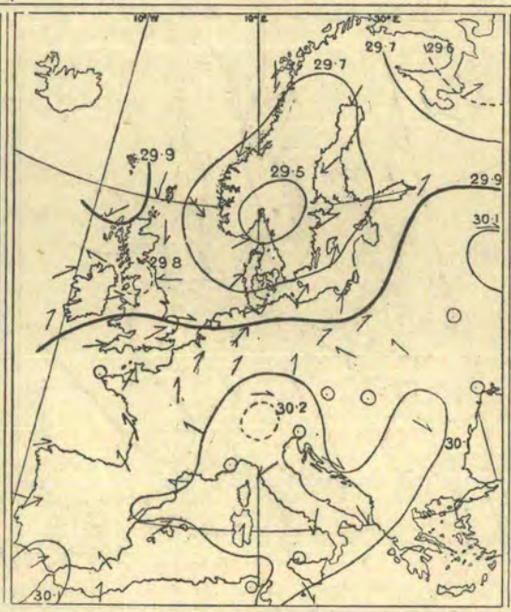
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 11th July.

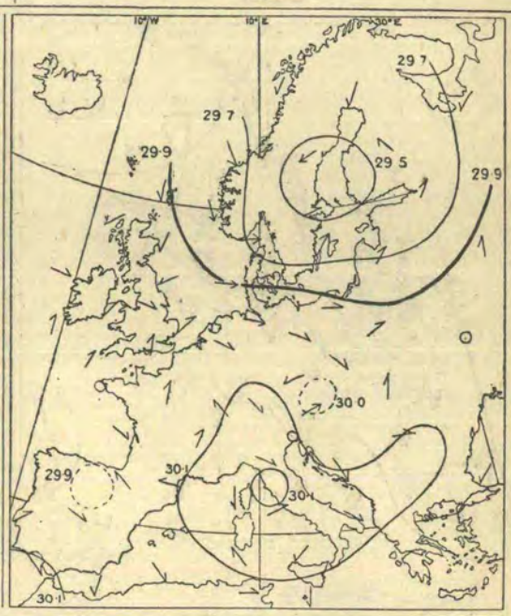
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine in morning over Eastern, South Eastern, and Southern Europe, and in many parts of our Islands, less fair elsewhere; rain in some localities over Spain, the north of our Islands, and at several Baltic stations. Showers later over Northern Europe and in several parts of the British Islands; heavy rains and thunderstorms in the north of Spain and south-west of France, and more than 1·5 ins. of rain at La Coubre.

Temperature not changing much: morning readings 70° to 80° over the Mediterranean, and exceeding 70° over Central and Eastern Europe, but scarcely exceeding 50° in the extreme north-west. Readings at Paris 62°, in London 63°, and at Berlin 76°. Daily maxima again exceeding 70° in our Islands, 80° over France and Germany, and 90° further south; as high as 113° at Biskra.

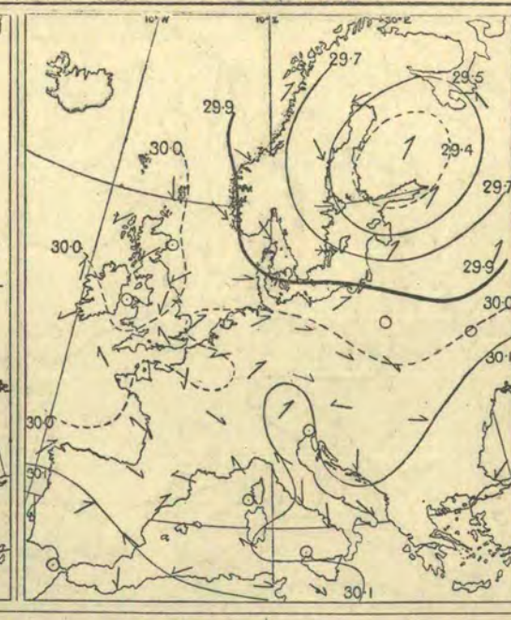
Wind still South-Westerly over Spain, the west and north of France, the south of England, north Germany and the Baltic, variable from the North-Eastwards and Northwards over the north-western districts; very variable and light in the southern and south-eastern countries. Decided cyclonic circulation over Scandinavia, where wind was strong locally. Very light variable breezes over the British Isles later.

Barometer remaining highest, 30·00 ins. to 30·15 ins., over South-Western, Southern, and Eastern Europe, and apparently rather high to the northward of Scotland; low in a large depression over Scandinavia, and also in other smaller systems over the south-west of Scotland and apparently off the west of Ireland. Scandinavian depression moving north-eastwards to Finland later; barometer rising over the United Kingdom.

Friday, 12th July.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.

Weather fine in morning over Southern, Central, and Eastern Europe; more or less changeable elsewhere; cloudy in many places, showery in some. Heavy thunderstorms later over France and our eastern and south-eastern counties (more than 2 ins. of rain at Cambridge), and considerable falls of rain over Northern Europe and several parts of the Netherlands and Germany.

Temperature inclined to fall, especially over Germany, but still ranging from 70° to 81° over the Mediterranean, and exceeding 70° in many parts of South Germany, Austria, and Southern Russia. Below 50° at the northern end of the Gulf of Bothnia, and below 60° in the northern parts of the British Islands. Daily maxima exceeding 75° in many parts of our Islands (where air was "close"), exceeding 80° at many Continental stations, and reaching 92° at Lyons, 91° at Clermont, 95° at Lemberg, 97° at Florence and Cagliari, 102° at Biskra, and 107° at Laghouat.

Wind very light and variable in most places, but a large cyclonic circulation of fresh winds prevailing over Scandinavia, the Baltic, and Northern Europe, round Central Finland. No great change later.

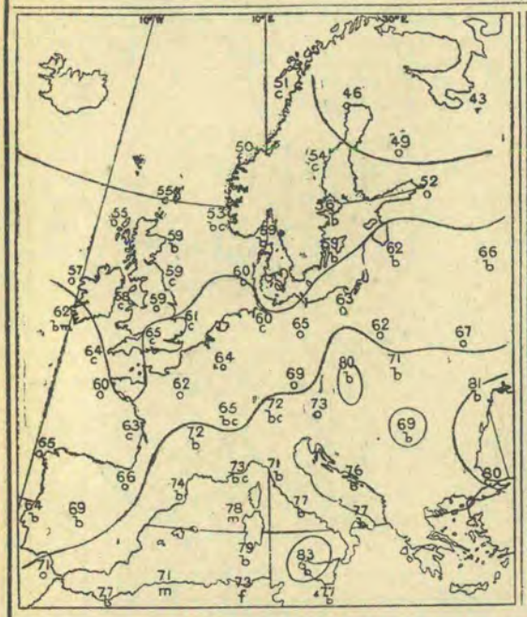
Barometer continuing as of late—highest over the southern and south-western half of the Continent, lowest in the north; gradients moderate to slight. New high pressure area of very slight intensity found over the British Islands, and very shallow depression over Ireland later.

II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 13th July.

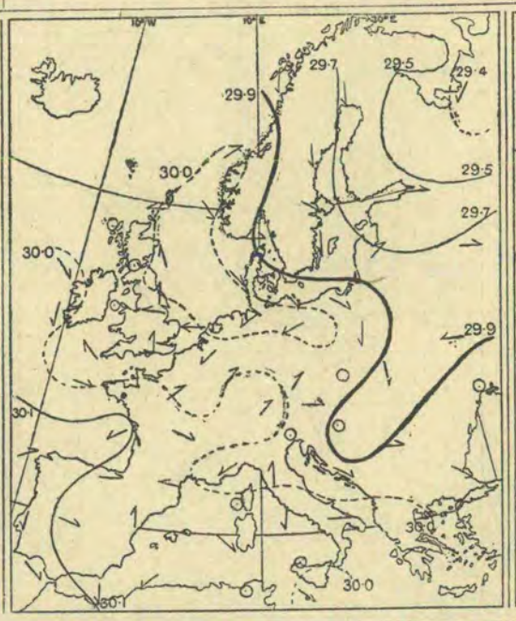
Temperature and Weather.

8 a.m.

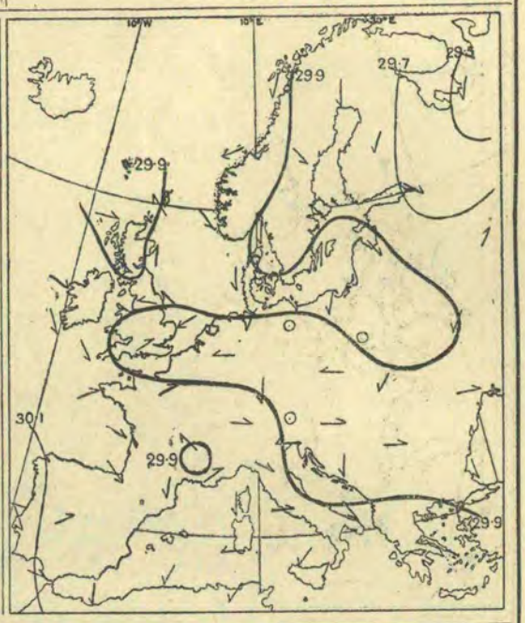


Barometer and Wind.

8 a.m.



6 p.m.



Weather thundery in many parts of England and France, and rainy in the extreme north of Russia. Fair or fine in most other localities, but foggy in the north of Ireland, as well as at Christiansund and Cape Grismez. Thunderstorms with heavy rain occurring later in many parts of England, Germany, and France, the largest amounts being 1·9 inches at Yarmouth, 1·2 inches at Munich and Lyons, and 0·7 inch at Cambridge, Berlin, and Limoges.

Temperature highest, 80° and upwards, at some of the Austrian stations; 75° and upwards over the Mediterranean and Adriatic. Lowest, 45° or less, over Lapland and Northern Russia. Daily maxima below 70° in most parts of the United Kingdom, but thermometer exceeding 80° in the southern parts of France and Germany, and exceeding 90° over Austria, Italy, and Algeria; the highest readings of all being 109° at Biskra and 108° at Laghouat.

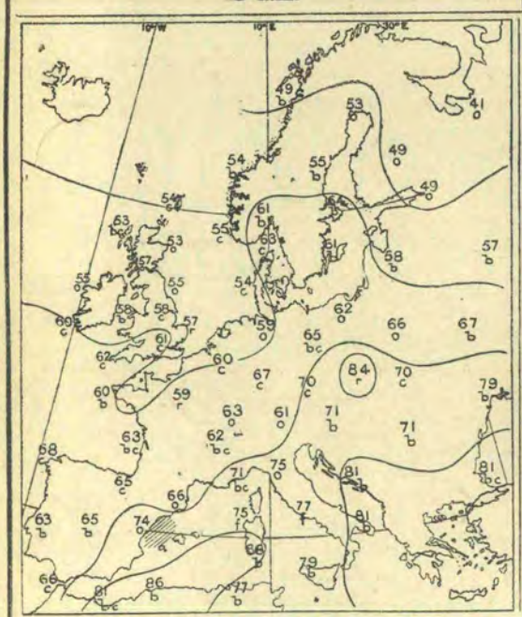
Wind chiefly North-Westerly over Sweden, the Baltic, and North Germany, as well as in Ireland and Spain, and South-Westerly over the southern parts of England and Germany. Light to fresh from the Eastward in the north and east of England, and light from South in the east of Scotland, but variable over Italy, the Mediterranean, and the southern parts of Austria and Russia. No important change occurring during day.

Barometer highest, 30·1 ins. and upwards, over the western parts of the Iberian peninsula and the southern parts of the Bay of Biscay; high, 30·0 ins. and upwards, over the North Sea, North Germany, and the south-west of Norway. Lowest, 29·4 ins. and less, over the north of Russia. Several shallow depressions moving eastwards across our Islands during day, and other small disturbances forming over the southern parts of Germany and France.

Sunday, 14th July.

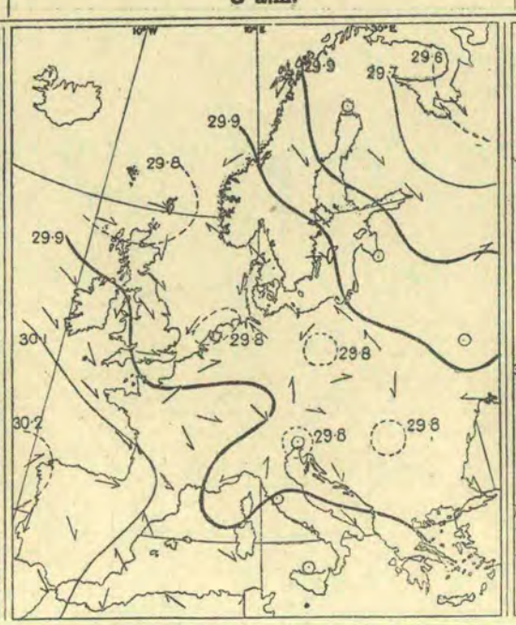
Temperature and Weather.

8 a.m.

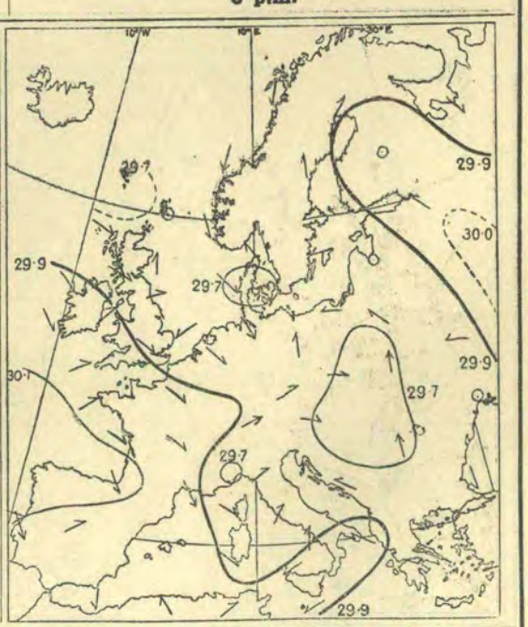


Barometer and Wind.

8 a.m.



6 p.m.



Weather showery in many parts of Western Europe and rainy in Holland and the east of England. Fair or fine in most other localities, but foggy at some of the Italian stations. Heavy rain falling later in many parts of Belgium, Austria, and Russia, the largest amounts being 1·9 ins. at Warsaw, 1·1 ins. at Lemberg, and 0·9 in. at Brussels and Nicolaieff.

Temperature highest, 80° and upwards, over some parts of the Mediterranean and Adriatic; lowest, 50° or less, over the northern parts of Russia and Norway, but low, 55° or less, over the northern parts of our Islands. Daily maxima below 70° in our Islands, but thermometer exceeding 80° in Spain and the south of France, 90° over Italy and Austria, and 100° over Algeria. Highest readings of all being 120° at Biskra and 115° at La Calle.

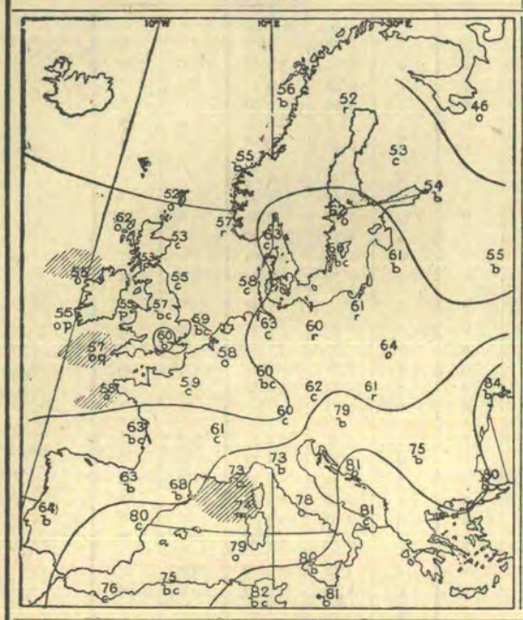
Wind light to fresh from the North-Westward over our Islands and France, as well as in Russia and the south of Italy. Variable in most other localities, but light from the Eastward or South-Eastward over the Baltic and the south of Scandinavia, and from the Southward in Algeria. Light Southerly breezes setting in later at most of the Italian stations.

Barometer highest, 30·2 ins. and upwards, in an anticyclone lying over the north-west of Spain; somewhat high, 29·9 ins. and upwards, in a long and broad band extending south-eastwards from the north-west of Norway to Central Russia. Lowest, 29·6 ins. and less, over Northern Russia, but low, 29·8 ins. and less, in a large depression lying off the north of Scotland, as well as in several smaller disturbances lying over Holland and various parts of Central Europe. Shallow depressions passing eastwards across Ireland and England during day.

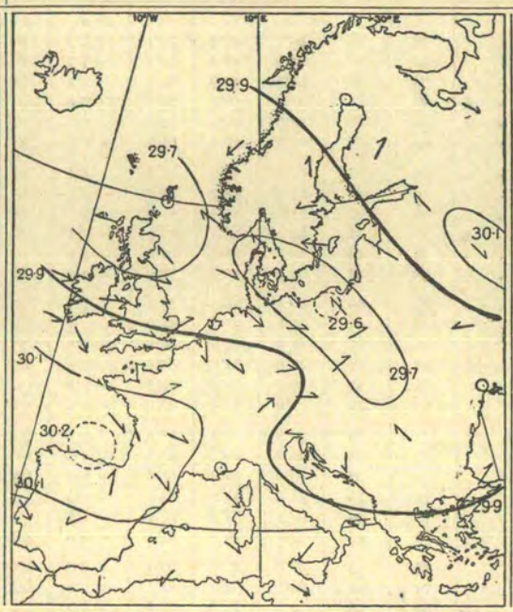
II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 15th July.

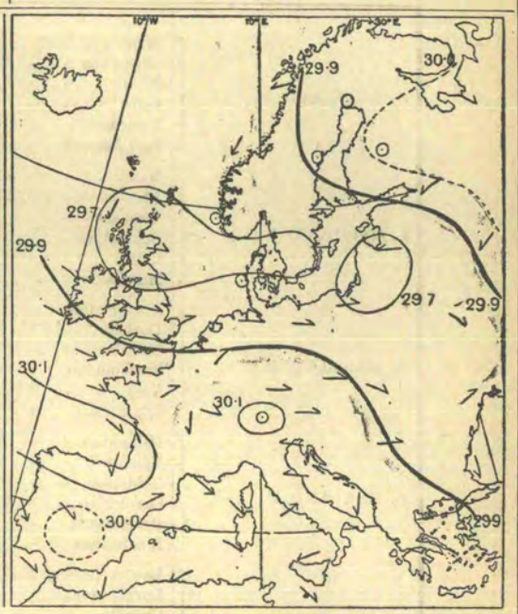
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather rainy at several of the German stations and showery in our Islands, but fine in most other localities. Thunderstorms occurring later in some parts of Germany, and lightning seen at Yarmouth.

Temperature highest, 80° and upwards, at some of the Adriatic and Mediterranean stations, as well as in the neighbourhood of the Black Sea; lowest, 50° or less, in the north of Russia. Daily maxima again below 70° in all parts of our Islands, but thermometer exceeding 80° in the south of France, 90° in Italy and Central Spain, and 100° in Central Algeria. Highest readings of all 106° at Biskra and Laghouat, and 99° at Cagliari.

Wind light to fresh from the North-Westward in Ireland and France, as well as in North Germany; Westerly over England, the Netherlands, South Germany, and Italy; moderate to strong from the Eastward in Scandinavia, light South-Easterly over the Baltic: variable in Scotland, Spain, and Russia. Subsequently increasing to a fresh or strong breeze from the Westward or North-Westward in the west and south of our Islands, and reaching the force of a gale in the Straits of Dover.

Barometer highest, 30·1 ins. and upwards, in an anticyclone lying over France, the Bay of Biscay, and the north of Spain, as well as in another area lying over Central Russia. Lowest, 29·6 ins. and less, in a small depression lying near Neufahrwasser; low, 29·7 ins. and less, in a large shallow area lying over Scotland and the northern parts of the North Sea. Small depression passing eastwards across our Islands during day.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During this week pressure has been rather low over Northern Europe and the British Islands. At first it was highest over the south-eastern and southern countries and the Mediterranean. The wind, though variable, was usually South-Westerly over Spain, the north of France, the south of our Islands, and North Germany. Temperature was high, especially over the Mediterranean and Algeria; maximum temperatures ranging from 90° to 120° being recorded in those regions at times. After the 11th pressure gave way in the south-east, and the barometer became highest over South-Western Europe, while it remained lowest in the north. The wind consequently veered towards North-West, and temperature gave way—chiefly over North-Western Europe.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
July 8th, 1889	Scarborough	—	—	—	—	—	—	—	—	—	—	—	48·2	41
„ 8th, 1889	York	—	—	—	—	—	—	—	—	—	—	—	62·8	54

III.—DATA from which the SUMMARY on page 163 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ⚓	59	43	56·1	46·7	51·1	− 2·4	64	0	4	0·40	−0·08	*	*
	Stornoway	59	40	56·9	44·4	50·2	− 4·3	57	0	3	0·17	−0·53	35·5	29
	Wick	62	36	59·6	45·9	52·3	− 2·8	72	0	5	0·69	+0·19	*	*
	Lairg ⚓	67	35	60·3	42·9	51·0	− 3·5	63	0	3	0·16	−0·55	*	*
	Glencarron ⚓	66	42	59·9	46·1	52·5	− 2·0	74	0	4	0·42†	−0·97	21·0	17
	Fort Augustus ⚓	68	42	61·6	47·4	54·0	− 3·4	84	0	4	0·37†	?	*	*
1. SCOTLAND, E.	Nairn	66	42	61·0	47·0	53·5	− 4·2	81	0	5	0·70	+0·12	*	*
	Aberdeen	64	43	59·4	49·3	54·0	− 3·2	84	0	4	0·39	−0·20	30·9	26
	Braemar ⚓	68	44	59·3	45·4	51·9	− 2·8	69	0	3	0·49	−0·15	22·3‡	19‡
	Ochtertyre ⚓	75	43	63·4	47·3	54·8	− 3·0	90	0	5	1·14	+0·39	*	*
	Leith	64	44	60·7	49·1	54·5	− 4·1	88	0	4	1·33	+0·70	*	*
	Marchmont ⚓	68	43	60·9	47·7	53·8	− 2·7	83	0	5	2·96	+2·18	28·3	24
2. ENGLAND, N.E.	Alnwick Castle	64	48	61·3	51·1	55·8	− 1·8	97	0	6	1·88	+1·27	*	*
	Durham	69	41	65·8	49·8	57·2	− 1·5	106	0	5	0·79	+0·18	18·3	16
	Shields	64	45	61·3	51·0	55·8	− 2·6	97	0	5	0·91	+0·33	*	*
	Scarborough ⚓	69	48	65·0	52·9	58·5	− 1·0	116	0	4	0·57	−0·04	29·5‡	26‡
	York	73	45	68·3	51·4	59·3	− 1·9	121	0	3	0·73	+0·15	?	?
	Spurn Head	68	54	64·9	55·0	59·6	− 0·3	123	0	5	0·79	?	*	*
3. ENGLAND, E.	Hillington ⚓	74	44	69·0	53·3	60·6	0·0	130	0	7	1·87	+1·26	35·8	31
	Yarmouth	72	54	65·6	56·3	60·7	− 0·5	131	0	6	2·32	+1·72	*	*
	Geldeston	74	52	68·9	55·2	61·6	+ 0·4	137	0	6	1·42	+0·88	35·9	32
	Cambridge	74	50	71·3	54·0	62·1	− 0·5	141	0	5	3·09	+2·57	31·0	27
	Rothamsted	73	49	69·1	53·6	60·9	− 1·5	132	0	6	3·93	+3·33	*	*
	Ingatestone	73	52	69·7	55·4	62·1	− 0·8	141	0	5	0·88	+0·33	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	73	42	67·3	52·0	59·1	− 2·3	120	0	6	1·12	+0·50	25·9‡	23‡
	Loughborough	76	48	69·1	54·7	61·4	− 0·8	136	0	5	0·76	+0·24	25·6‡	22‡
	Cheadle ⚓	69	46	63·9	51·9	57·5	− 2·9	109	0	6	1·73	+1·03	*	*
	Churchstoke ⚓	72	45	65·0	50·8	57·4	− 2·4	108	0	6	2·99	+2·41	30·8	27
	Hereford ⚓	74	48	67·9	53·4	60·2	− 1·4	127	0	6	2·45	+1·93	*	*
	Cirencester	71	44	66·1	52·1	58·6	− 2·3	116	0	5	2·02	+1·34	22·9	20
	Oxford	74	52	68·3	55·3	61·4	0·0	136	0	6	1·72	+1·14	26·5	23
5. ENGLAND, S.	London	76	51	71·1	56·4	63·2	− 0·1	148	0	7	0·53	+0·04	22·1‡	20‡
	Strathfield Turgiss ⚓	77	49	68·2	54·7	61·0	− 0·4	133	0	7	0·53	+0·02	*	*
	Dungeness	70	54	68·6	57·4	62·6	+ 0·9	144	0	5	1·27	+0·86	*	*
	Hastings (St. Leonard's)	70	53	67·4	56·1	61·4	+ 0·3	136	0	7	1·54	+1·11	42·5	38
	Southampton	76	52	69·5	56·4	62·5	+ 1·0	144	0	6	1·09	+0·54	24·7	22
	Hurst Castle	71	56	67·9	58·0	62·6	+ 1·5	144	0	5	0·93	+0·44	*	*
	Stowell ⚓	69	47	65·7	53·9	59·4	− 1·0	122	0	6	1·10	?	16·5‡	15‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	67	48	61·8	50·3	55·7	− 1·2	96	0	4	0·52†	−0·83	*	*
	Glasgow	68	45	61·3	48·1	54·2	− 3·4	85	0	5	1·39	+0·59	19·4	16
	Ardrossan	66	48	62·1	50·3	55·8	− 1·9	97	0	4	1·56	+0·91	*	*
	Glenlee ⚓	69	35	64·6	47·0	55·2	− 2·1	92	0	6	2·18†	+1·28	*	*
	Douglas (Isle of Man)	66	44	62·7	51·5	56·7	− 0·7	103	0	3	1·22	+0·59	36·7	32
7. ENGLAND, N.W.	Newton Reigny (Penrith)	70	39	65·5	48·6	56·5	− 1·9	102	0	4	0·69	+0·01	32·3	28
	Barrow-in-Furness	67	48	63·1	53·0	57·7	− 1·5	110	0	4	0·75	+0·06	*	*
	Stonyhurst	69	43	63·5	51·0	56·8	− 2·3	104	0	6	1·18	+0·18	33·9	29
	Blackpool ⚓	69	46	67·0	52·6	59·3	− 0·5	121	0	4	0·58	−0·12	35·1	30
	Manchester	69	47	64·5	52·9	58·3	− 2·1	114	0	7	2·01	+1·13	*	*
	Liverpool Obsr (Bidston)	68	51	64·3	54·4	59·0	− 1·7	119	0	6	0·64	−0·04	*	*
	Llandudno ⚓	69	48	64·9	52·6	58·3	− 2·4	114	0	4	0·43	−0·18	28·7	25
	Holyhead	68	51	63·7	52·7	57·8	− 1·4	111	0	5	1·80	+1·29	*	*
8. ENGLAND, S.W.	Llandovery	75	44	69·3	50·6	59·3	− 1·1	121	0	6	1·17	+0·33	*	*
	Pembroke	64	54	61·7	55·3	58·3	− 1·6	114	0	2	0·75	+0·24	44·7	40
	Arlington (N. Devon)	67	46	64·0	51·3	57·2	− 3·7	106	0	7	1·76	+0·69	*	*
	Cullompton ⚓	72	44	67·3	52·2	59·2	− 2·2	120	0	6	1·68	+1·06	28·0	25
	Falmouth	67	52	65·5	54·6	59·7	− 1·2	124	0	2	0·56	−0·14	39·0	35
	Plymouth	72	51	67·6	55·9	61·3	− 0·4	135	0	5	1·35	+0·77	27·1	24
	Prawle Point	69	50	63·0	54·3	58·4	− 1·3	115	0	5	1·97	?	*	*
9. IRELAND, N.	Malin Head	61	48	58·0	50·6	54·0	− 2·7	84	0	5	1·77	?	*	*
	Londonderry	71	41	63·0	48·9	55·5	− 3·0	95	0	7	1·82	+1·07	*	*
	Mullaghmore	66	49	62·3	52·6	57·1	− 2·5	106	0	5	0·62	−0·26	*	*
	Belmullet	66	46	61·4	50·7	55·7	− 1·9	96	0	4	0·23	?	*	*
	Markree Castle	70	41	62·3	48·9	55·1	− 4·5	92	0	4	0·86	+0·12	33·4	29
	Brookeborough	72	41	63·7	48·1	55·4	− 4·5	94	0	5	1·09	?	*	*
	Armagh	71	44	64·3	48·0	55·6	− 4·2	95	0	5	1·67	+0·97	35·2	31
	Donaghadee	66	51	61·6	53·6	57·3	− 0·9	107	0	5	2·21	+1·62	*	*
	Edgeworthstown	71	36	65·9	44·9	55·0	− 4·8	91	0	4	0·54	−0·28	*	*
10. IRELAND, S.	Dublin	70	49	64·8	51·1	57·5	− 2·2	109	0	4	0·70	+0·18	41·7	37
	Parsonstown	73	45	65·6	46·9	56·0	− 3·3	98	0	2	0·19	−0·49	37·3	33
	Kilkenny	70	40	64·9	45·7	54·6	− 5·3	88	0	4	0·32	−0·21	*	*
	Waterford	75	43	68·6	46·9	57·0	− 3·6	105	0	3	0·35	−0·27	*	*
	Roche's Point	69	49	65·7	50·7	57·7	− 3·0	110	0	1	0·30	−0·41	*	*
	Valencia	65	44	64·1	48·4	56·7	− 2·0	103	0	4	0·33	−0·55	67·9	60
	Killarney	69	?	64·6	?	?	?	?	?	5	0·24	?	*	*
	Foynes	70	46	64·0	50·0	56·5	− 2·7	102	0	4	0·53	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	67	54	65·6	55·9	60·4	− 0·1	129	0	6	0·49	−0·01	*	*
	Jersey	71	56	68·1	57·4	62·4	− 0·9	143	0	5	1·07	+0·57	30·9	28

Stations marked ⚓ are in connection with the Royal Meteorological Society, and those marked ⚓ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in hose districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

(OFFICIAL COPY.)

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VI. No. 29.] *Third Series.* WEEK ENDING MONDAY, 22ND JULY, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number, TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 174.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	64	38	58·7	45·9	51·9	3 below.	69	−17	0	0	1056	+181	514	+ 4
	1. SCOTLAND, EAST	69	39	61·0	47·1	53·6	4 below.	81	−26	0	0	1253	+ 65	548	+ 5
	2. ENGLAND, N.E.	69	44	62·4	48·9	55·2	4 below.	92	−24	0	0	1305	+ 47	489	+ 7
	3. ENGLAND, EAST	70	42	66·0	50·1	57·5	5 below.	109	−18	0	0	1521	+ 29	619	+112
	4. MIDLAND COUNTIES	70	40	65·6	47·5	55·9	5 below.	97	−27	0	0	1542 *	+ 36	564	+ 60
	5. ENGLAND, SOUTH	71	45	66·1	52·0	58·7	3 below.	117	−16	0	0	1693	+ 84	448	+ 75
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	67	40	61·4	48·6	54·5	3 below.	88	−19	0	0	1364	+109	375	− 23
	7. ENGLAND, N.W.	67	37	61·9	50·2	55·6	4 below.	95	−20	0	0	1411	+ 83	382	− 1
	8. ENGLAND, S.W.	71	38	64·6	50·3	56·9	4 below.	104	− 8	0	0	1556	+ 18	321	+ 88
	9. IRELAND NORTH	65	40	59·8	49·1	54·1	5 below.	85	−22	0	0	1388	+ 57	297	− 53
	10. IRELAND, SOUTH	71	40	63·7	49·5	56·1	4 below.	99	−17	0	0	1562 *	+ 27	225	− 14
	— CHANNEL ISLANDS	69	49	64·8	54·7	59·4	2 below.	122	− 6	0	0	1749	+105	77	− 16

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 174.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	5	4	2 less.	134	+ 9	20·3	−1·2	16	14	650	−139	24	− 5
	1. SCOTLAND, EAST	5	8	2 more.	106	+ 2	12·9	−3·4	23	19	814	− 74	30	− 3
	2. ENGLAND, N.E.	4	7	1 more.	96	− 5	11·8	−2·0	18	16	762 *	− 55	29	− 2
	3. ENGLAND, EAST	5	4	2 less.	102	− 1	13·8	+0·8	43	42	798	−198	30	− 8
	4. MIDLAND COUNTIES	5	5	2 less.	96	− 6	16·3	+1·4	49	44	750	−123	28	− 5
	5. ENGLAND, SOUTH	5	8	3 more.	101	+ 4	12·9	−1·1	43	39	771	−157	29	− 6
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	5	8	1 less.	112 *	− 3	20·7 *	−3·0	27	24	860	+ 13	32	0
	7. ENGLAND, N.W.	5	8	0 (average).	102	− 3	14·9	−3·1	28	25	834	− 20	31	− 1
	8. ENGLAND, S.W.	5	8	1 more.	100	−11	17·9	−3·8	52	48	939	− 49	36	− 2
	9. IRELAND, NORTH	5	10	2 more.	123	− 4	18·3	−0·1	19	17	726	− 82	27	− 4
	10. IRELAND, SOUTH	5	10	3 more.	110	−10	17·8	−3·0	39	35	903	− 2	34	0
	— CHANNEL ISLANDS	3	7	2 more.	108	−11	14·4	−1·9	61	56	1033	−131	40	− 5

General Remarks.

Weather has continued in an unsettled condition in all parts of the Kingdom. Rain has fallen rather frequently in all districts and has been accompanied by occasional thunder and lightning. Over central, southern, and eastern England, however, some fine clear intervals have been experienced.

Temperature has been below the mean in all districts, the deficit in most places having been as much as 3° to 5°. The highest of the maxima were recorded on irregular dates and were very low for the time of year, having ranged from 64° in "Scotland, N." to 71° in "England, S.", "England, S.W.", and "Ireland, S." The absolute minima, which were also registered on varying dates, were as low as 38° to 40° in Scotland, 37° to 45° in England, and 40° in Ireland. In the "Channel Islands" the lowest reading was 49°.

Rainfall has been a little less than the mean in the north and west of Scotland, and over central and eastern England, but rather more in nearly all other localities.

Bright sunshine has been more prevalent in some parts of England than it was last week, but shows a decrease in Ireland, Scotland, and the northern parts of England. The percentage of the possible amount of duration ranged from only 14 in "Scotland, N.", 16 in "England, N.E.", and 17 in "Ireland, N.", to 44 in the "Midland Counties", 48 in "England, S.W." and 56 in the "Channel Islands".

Barometer and Wind.—During nearly the whole of the period depressions travelled over the more northern parts of our Islands from the westward; some of these disturbances were of considerable depth for the time of year. The wind consequently varied between South-West and North-West in direction, and occasionally increased to a strong breeze or moderate gale.

* This value has been altered owing to the receipt of further information.

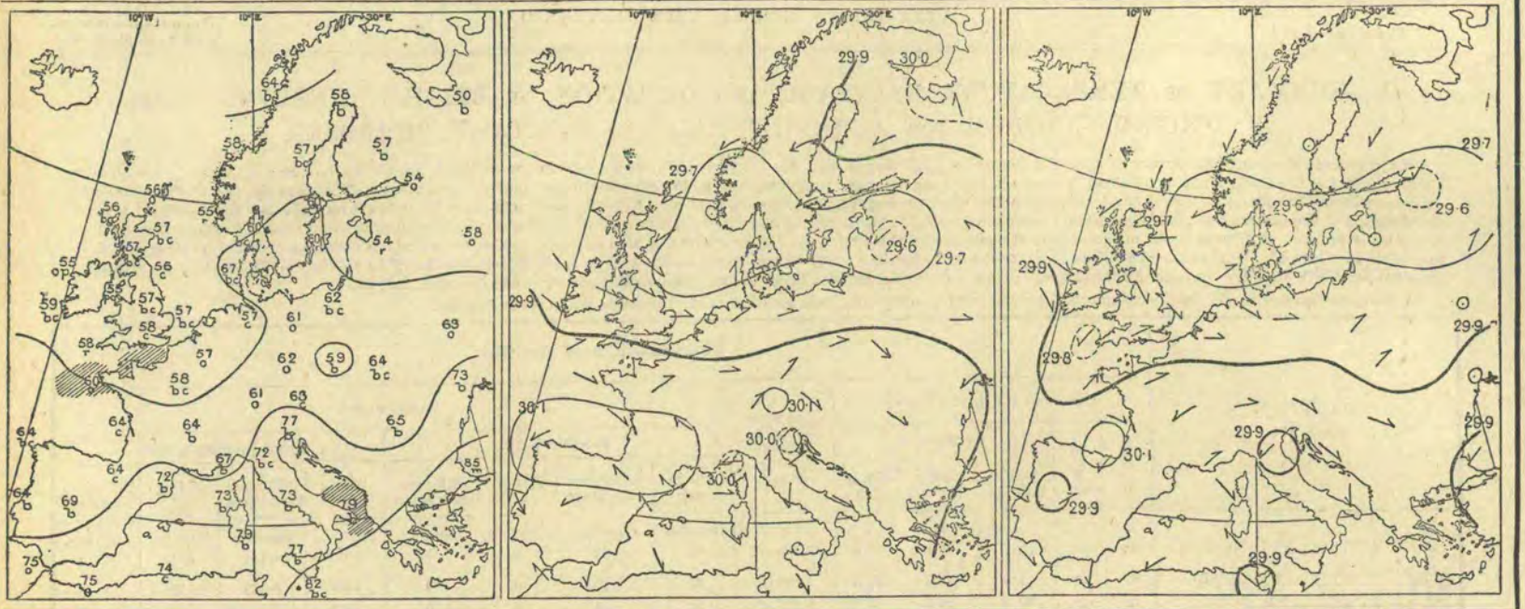
59513. 350.—7/89. Wt. 36. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 16th July.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather showery in many parts of the United Kingdom, and rainy at some of the Baltic stations. Fair or fine in most other localities, but dull in Central Russia and also in Western Algeria. Thunderstorms occurring later in many parts of Great Britain as well as in North Germany, and heavy rain falling at some of the Channel stations.

Temperature highest, 75° and upwards, over the Adriatic and Mediterranean; lowest, 55° or less, over Northern Russia and the northern parts of the United Kingdom. Maximum readings below 70° over the whole of our Islands, but thermometer exceeding 80° in Italy, and the south of France, and exceeding 90° over the central parts of Spain and Algeria, the highest readings of all being 104° at Biskra, 97° at Aumale, and 95° at Madrid.

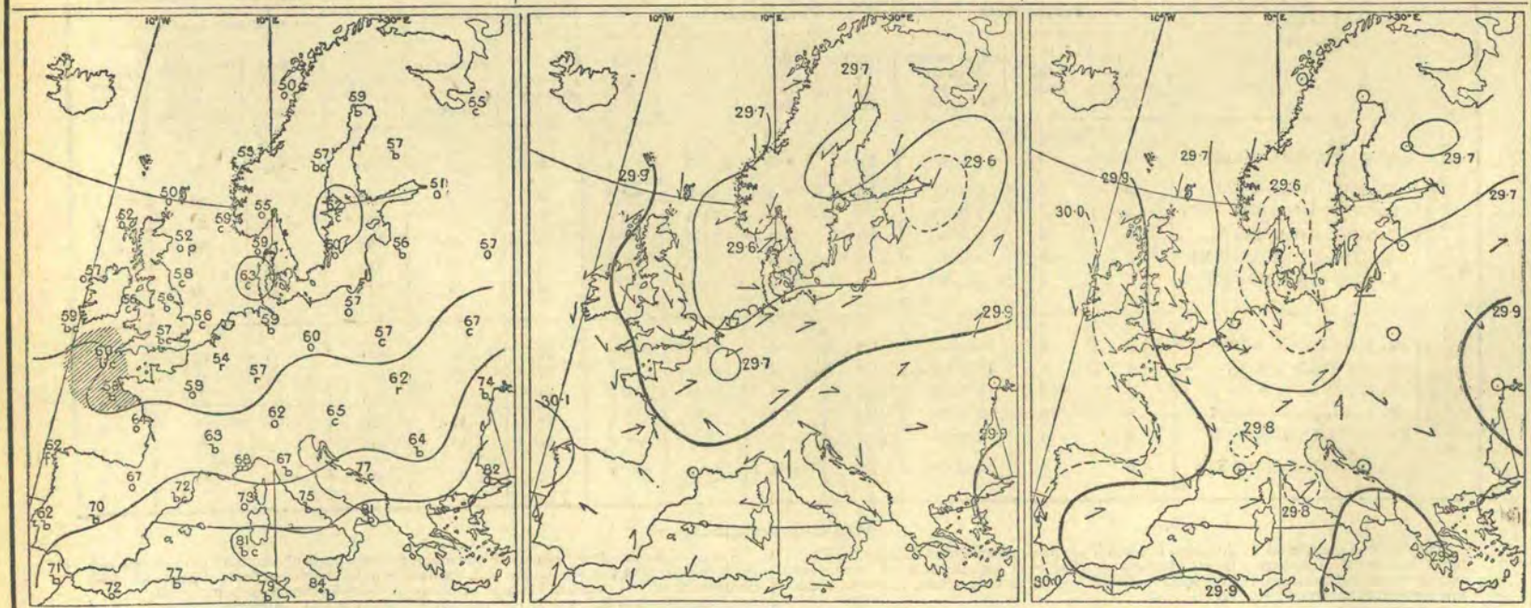
Wind light or moderate from the Eastward or North-Eastward over the northern parts of Scandinavia, Russia, and Scotland, Westerly or North-Westerly over Ireland, England, and France, and South-Westerly in Germany. Light and variable in Southern Europe, but North-Westerly or Northerly on the southern shores of the Mediterranean. Subsequently shifting to the North-Eastward at Scilly, and to the South-Westward in the north-west of France.

Barometer highest, 30·1 ins. and upwards, over the Bay of Biscay, the south of France, and the north of Spain; high, 30·0 ins. and upwards, over the extreme north of Russia. Lowest, 29·6 ins. and less, in a small depression lying over the Baltic Provinces, but low, 29·7 ins. and less, in a large area extending from the North Sea across Denmark, the south of Scandinavia, and the Baltic to Western Russia. A definite depression appearing later over the south of Sweden and also at the mouth of the Channel.

Wednesday, 17th July.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather showery over Great Britain and many parts of Central Europe, but fine in most other localities. Fog reported at Christiansund and also at Corunna. Sharp thunderstorms later in Holland, North Germany, and the east and south-east of England, with 1·7 inches of rain at Hamburg. Heavy rain (1·3 inches) falling at Wisby also.

Temperature highest, 80° or a little above, at Constantinople and several of the Mediterranean stations; lowest, 55° and less, in the north of our Islands and the west of Norway. Daily maximum below 70° in all parts of the United Kingdom and below 60° in the north, but thermometer rising above 80° over nearly the whole of Southern Europe, above 90° in Central Spain and the south of Italy, and above 100° in Central Algeria. Highest readings of all 109° at Biskra, 104° at Laghouat, and 100° at Cagliari.

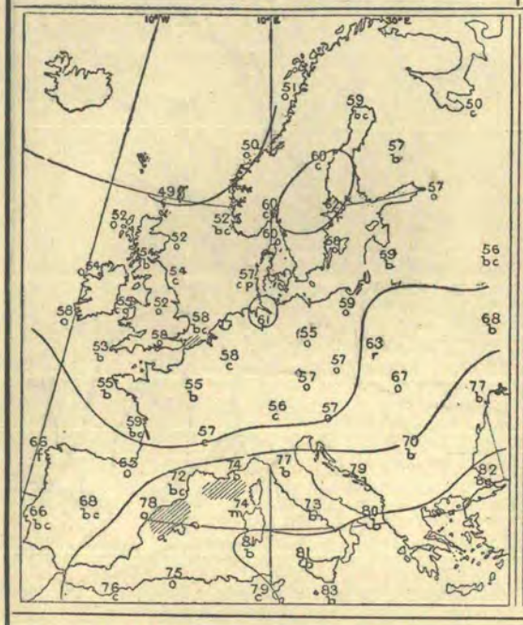
Wind light to fresh from the North-Westward or Northward over our Islands and the north of France and light from the South-Westward over Germany, Austria, and the central parts of France and Russia. Light from East or North-East over Northern Russia and the south of Scandinavia; variable over Algeria, the Mediterranean, and Southern Europe. Subsequently shifting to the North-Westward on the eastern shores of the North Sea.

Barometer highest, 30·1 ins. and upwards, in an anticyclone lying off the Portuguese coasts; high, 30·0 ins. and upwards, in separate areas lying respectively over Italy and the south of Russia. Lowest, 29·5 ins. and less, in a small depression lying near St. Petersburg; low, 29·6 ins. and less, in another disturbance lying over the Skager Rack, 29·7 ins. and less in a large area covering the whole of Scandinavia, Denmark, the North Sea, the Baltic, and the west of Russia. Small shallow depressions moving southwards across Great Britain during day.

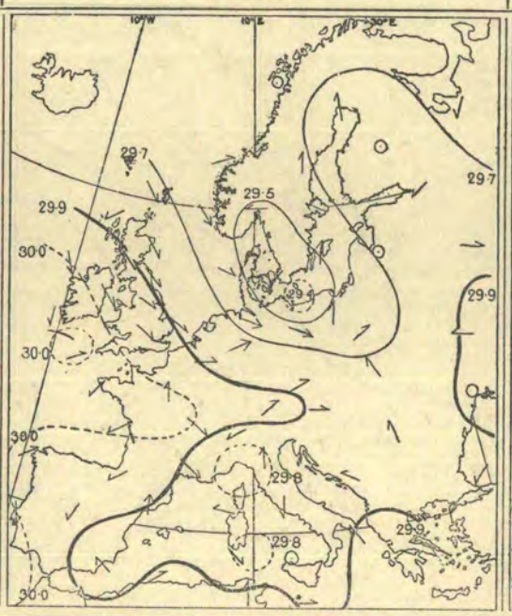
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 18th July.

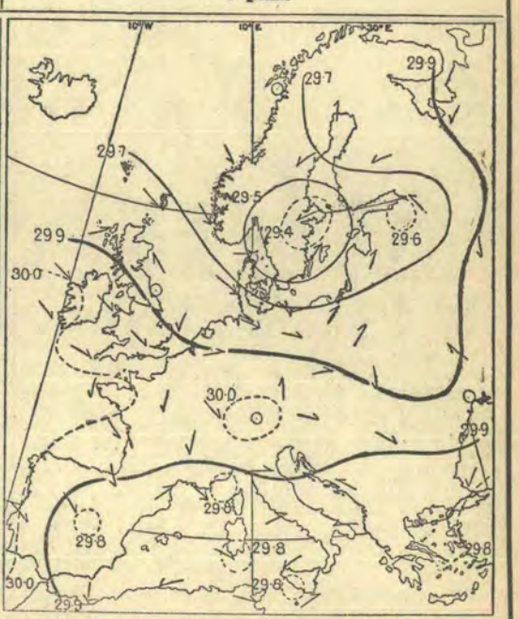
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather dull over Central Europe, with rain at some of the Danish and German stations, but fair or fine elsewhere. Showers falling later in the extreme north and north-west of our Islands, and heavy rain in Sweden and the south-west of France. Thunderstorm occurring at Perpignan in afternoon.

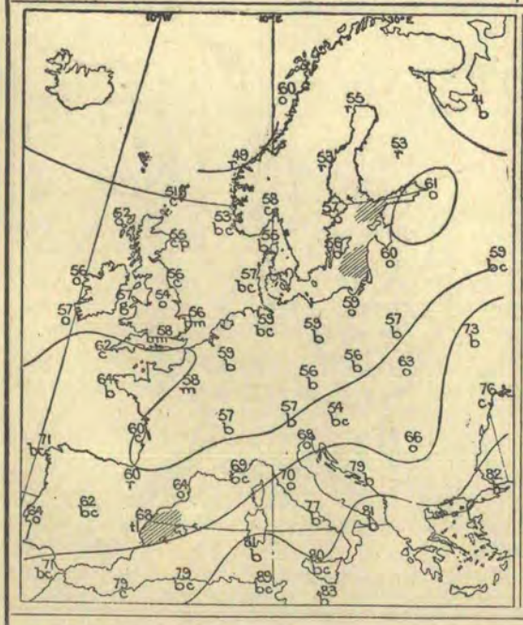
Temperature highest, 80° and upwards, at Constantinople and several of the Mediterranean stations; lowest, 55° or less, over the northern parts of the United Kingdom, the west of Norway, and the extreme north of Russia. Daily maxima below 65° in most parts of the United Kingdom, but thermometer rising above 80° in the south of France, above 90° over Italy, Central Spain, and the south of Austria, and above 100° in Sicily and some parts of Algeria. Highest readings of all, 113° at Biskra, 108° at Palermo, 104° at Sfax, and 100° at Cagliari.

Wind light to fresh from the North-Westward over our Islands and the North Sea, strong from the Westward over North Germany, and light from the Southward or South-Eastward over Sweden and Finland. Light or moderate from the Eastward or North-Eastward in the west of France; variable over Southern Europe and the Mediterranean. Subsequently backing to the Southward or South-Westward at some of the Scotch stations.

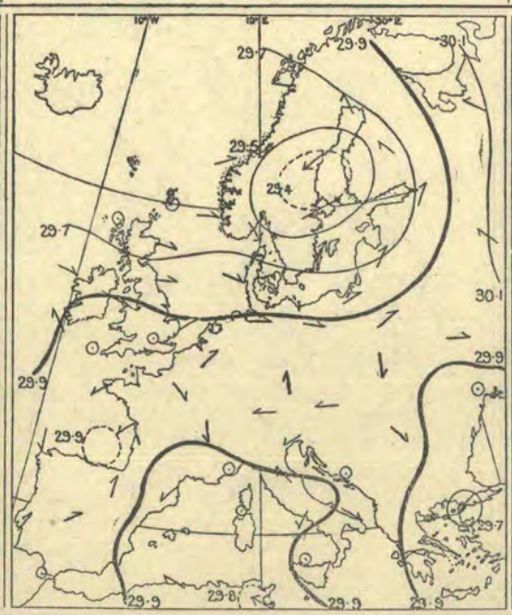
Barometer highest, 30·0 ins. and upwards, in an anticyclone lying over the west and south-west of our Islands, the Bay of Biscay, Western and Central France, and the Portuguese coasts, as well as in another area lying over the south of Russia. Lowest, 29·4 ins. and less, in a small but well defined depression lying off the coasts of Pomerania; low, 29·8 ins. and less, in two other disturbances lying respectively over the Gulf of Genoa and to the eastward of Sardinia. Pomeranian depression subsequently moving north-eastwards to the neighbourhood of Stockholm, but further shallow disturbances appearing over the Mediterranean.

Friday, 19th July.

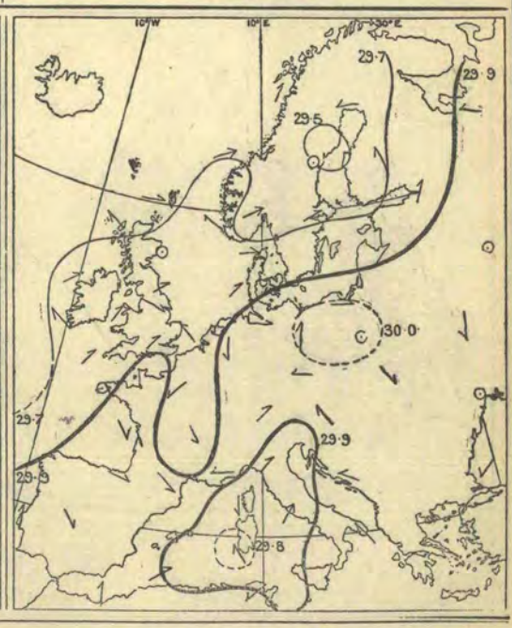
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather rainy over Finland and the north of Sweden, and showery at some of the Irish and Scotch stations. Fair in most other parts of Europe, but dull over the Baltic, as well as in the south of Austria. Thunderstorm reported at Barcelona. Decided falls of rain occurring later in the south-west of our Islands, as well as in some parts of Russia, Spain, and Northern Italy, the largest amount of all being 2·4 inches at Turin.

Temperature highest, 80° and upwards, over Turkey, Sardinia, Tunis, and Southern Italy. Lowest, 45° and less, over Northern Russia; low, 55° and less, at some of our own western and northern stations. Daily maxima below 70° in all parts of our Islands, and below 60° on our extreme north and north-west coasts, but thermometer rising above 80° in some parts of France, above 90° in Italy, and above 100° in Central Algeria. Highest readings of all 113° at Biskra, 108° at Laghouat, 100° at Cagliari, and 99° at Aumale and Sfax.

Wind light or moderate from the Westward over the northern parts of our Islands and the eastern shores of the North Sea, fresh or strong from the South-Westward over the Baltic, and light from South-East or East over the northern parts of Scandinavia and Russia, chiefly North-Easterly in France and Italy, and South-Easterly in Algeria, but variable in Spain, Austria, and the southern parts of England and Russia. Light South-Westerly wind subsequently setting in over the south of England.

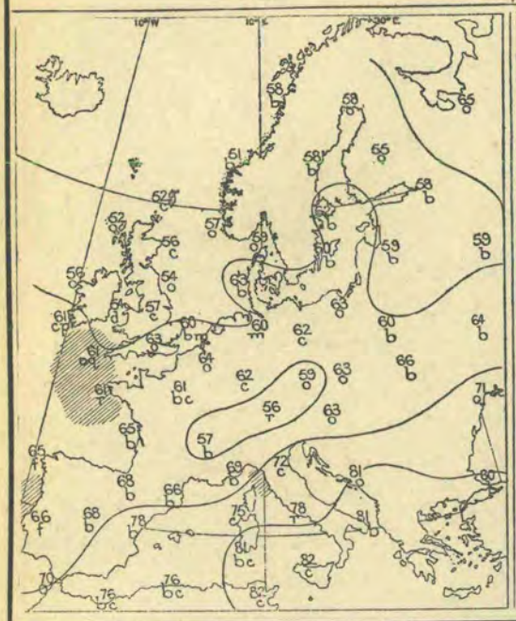
Barometer highest, 30·1 ins. and upwards, over Northern and Central Russia; high, 30·0 ins. and upwards, in a long band, extending thence to Western Germany. Lowest, 29·4 ins. and less, in a well-marked depression lying over Central Sweden; low, 29·7 ins. and less in shallow disturbances lying respectively over Tunis and Asia Minor. Another low-pressure system approaching our south-west coasts later, and barometer falling rather quickly in South Ireland.

II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 20th July.

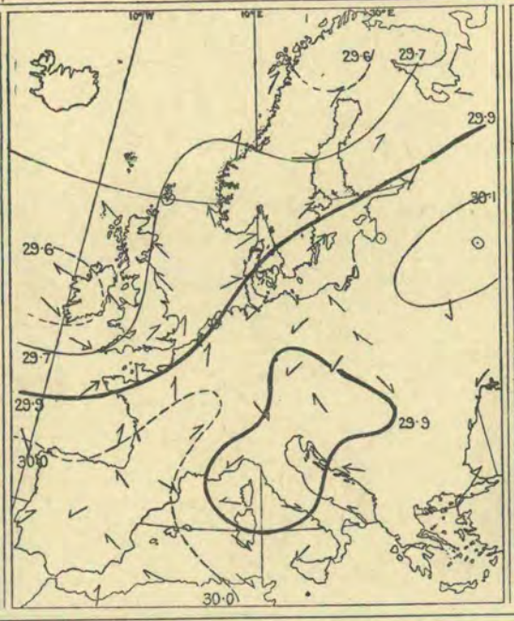
Temperature and Weather.

8 a.m.

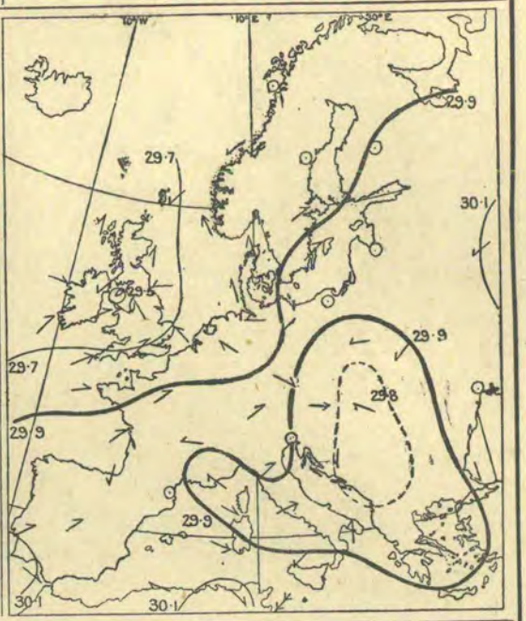


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine and bright over Russia, the greater part of Scandinavia, Spain, and the south-west of France; cloudy elsewhere, and becoming showery and unsettled over the British Islands, especially in the west. Rain falling very generally over the United Kingdom and north of France later, and becoming heavy in the east of Scotland. Large quantities over Austria and South Germany also, and thunderstorms at Hamburg and Cuxhaven.

Temperature low for time of year over Central Europe and in most parts of the British Islands and their neighbourhood, high over the Mediterranean and South-Eastern Europe. Morning readings of 80° or more recorded at Constantinople, Brindisi, Cagliari, Tunis, and Aumale, and 90° at Sfax, but as low as 50° to 56° in the north of the British Islands and west of Norway. Daily maxima 70° or less over the United Kingdom—less than 60° in the north—but as high as 108° in parts of Algeria, and ranging from 90° to 102° over the south of Italy.

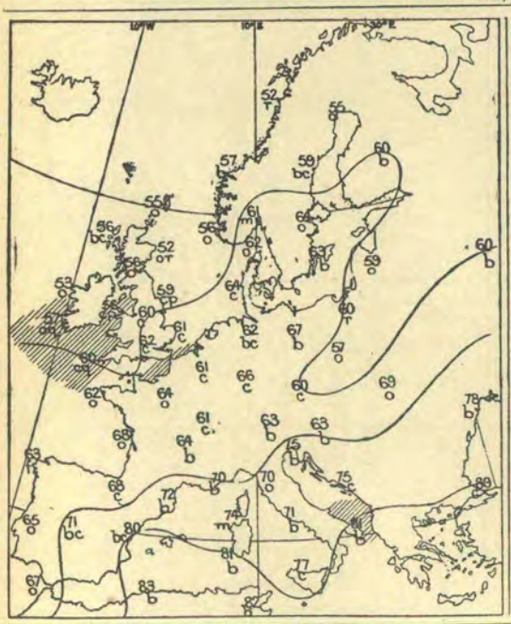
Wind moderate from South-West, and South over the Channel, England, the North Sea, and Baltic, and South-Easterly in Scotland, but Westerly in the South of Ireland, and falling light. Very variable over South-Western, Central, and Eastern Europe. Freshening considerably in the Channel later, and "backing" again in the west of Ireland.

Barometer exceeding 30·0 ins. over Algeria, the Spanish Peninsula, and south-west of France, and ranging from 30·0 ins. to more than 30·1 ins. over the Balkan Peninsula and Russia, the two high-pressure systems being separated by a band of lower values, and a shallow depression lying over Central Europe and the Mediterranean. Lowest, 29·6 ins. and less, in a complex depression advancing over Ireland from the Atlantic. Said depression continuing to move east-north-eastwards during day.

Sunday, 21st July.

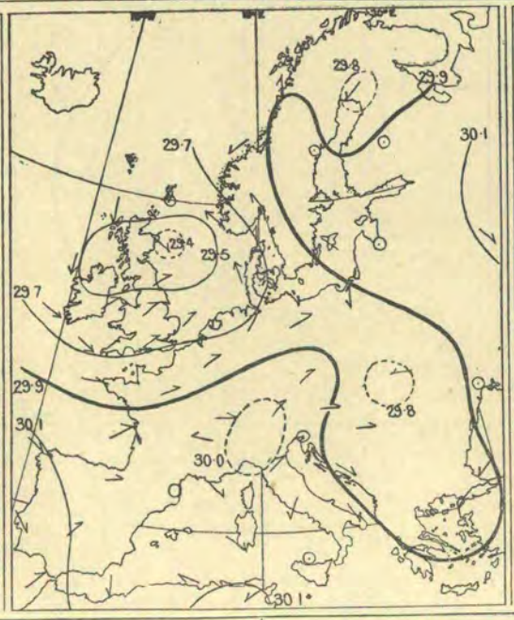
Temperature and Weather.

8 a.m.

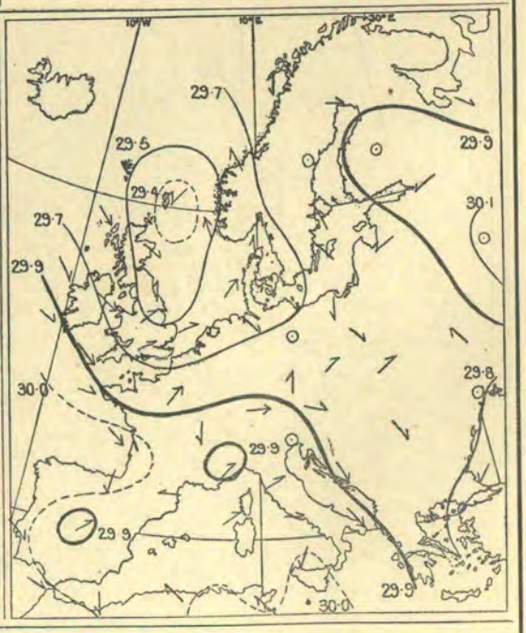


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine and bright over Russia, South-Eastern Europe, and the Mediterranean, cloudy and unsettled elsewhere; very showery over the British Isles and North Sea, but tending to improve in the south of Ireland. Rain very general over Great Britain during day, with thunderstorms in England; heavy rain at Aberdeen. Showery at many of the Continental stations.

Temperature tending to give way in many places, but still as high as 80° or more, at time of morning observation over the southern coasts of the Mediterranean and at Constantinople; no material alteration in our Islands. Daily maxima not exceeding 70° at any of our own stations, but again exceeding 100° in Algeria, and 90° in some parts of Germany and Spain; nearly 90° over Italy.

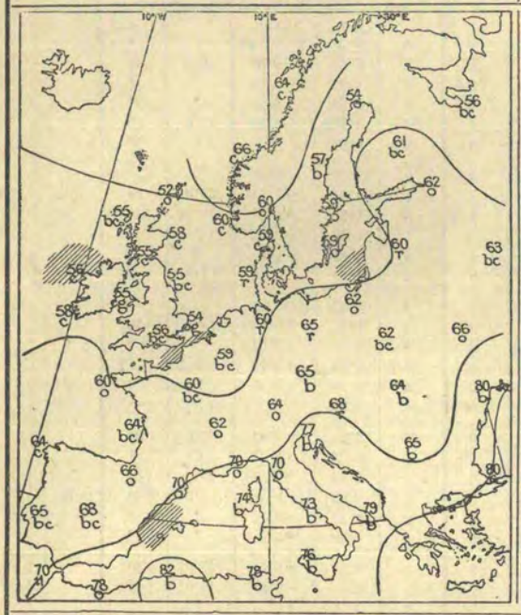
Wind light to moderate in force and variable in direction as far as the south-western, southern, central, eastern, and northern countries of Europe are concerned; strong and squally from West or South-West over the southern parts of our Islands and north of France, while a complete cyclonic circulation prevailed over the British Islands as a whole, and the North Sea. Blowing a slight gale over the eastern half of the Channel during the day, and a strong breeze from North-West on our western coasts.

Barometer exceeding 30·0 ins. over Russia, and ranging from 30·0 ins. to 30·1 ins. and more over South-Western Europe; lower over Central Europe, Poland, and the Balkan Peninsula, but lowest of all (29·4 ins. to 29·5 ins.) in a complex depression lying over the northern half of the British Isles. Depression moving north-eastwards later, and undergoing important modifications in form, and new, shallow systems appearing over Central Spain, the Mediterranean, and the Baltic Provinces.

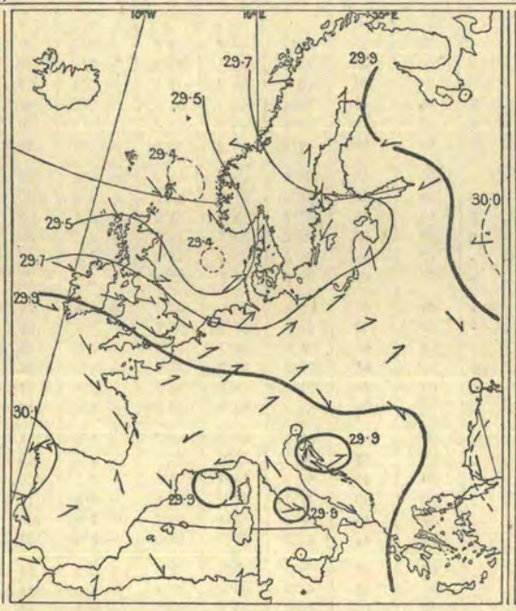
II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 22nd July.

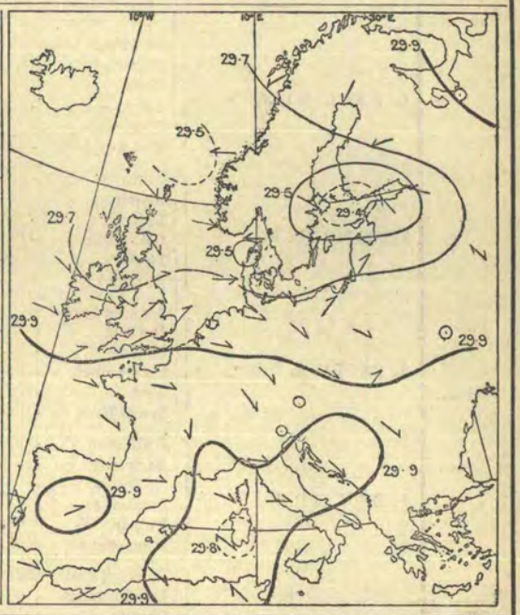
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine and bright over South-Eastern and Eastern Europe, as well as in the north of Scandinavia, cloudy and changeable elsewhere, though temporarily fair over the greater part of the United Kingdom. Very rainy over the Baltic and in some parts of Central Europe. Rain again setting in over the western parts of the British Islands later.

Temperature showing some further reduction in most places. Morning readings below 60° in all parts of the United Kingdom, and below 80° almost everywhere. Daily maxima all below 70° in our Islands and scarcely exceeding 70° over Germany, but exceeding 80° in the south of France.

Wind continuing light to moderate, and variable over Southern, South-Eastern, and Eastern Europe, but blowing very freshly from between West and North-West in the United Kingdom and north of France, from South-West over the Netherlands and North Germany, from South in Denmark, and South-East in Norway. Independent cyclonic circulation of moderate winds over the Baltic. Wind backing temporarily in our Islands later, and moderating in force.

Barometer ranging between 30·00 in. and 30·12 in. over South-Western Europe, but falling over Russia—30·0 ins. being exceeded at Moscow only; lowest, 29·5 ins. and less, between the Shetlands and Norway and over the North Sea, and as low as 29·6 ins. and less in a small depression over the Baltic. Shallow local disturbances found over the Mediterranean. New secondary disturbances of little depth appearing in the north-west and west of the British Islands later, and spreading over the country.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the greater part of this week two high-pressure systems, of no great intensity, have been observed, one over the Atlantic and the other over Russia. Both systems have altered their position at times so far as latitude is concerned, but while in the earlier part of the period they were united by a "col" lying across Southern or Central Europe, they were after the 19th separated by a low-pressure band stretching from North-Western to South-Eastern Europe. The weather over the British Islands and northern half of Europe has consequently been changeable and showery,—in many regions the rainfall has been in excess of the average. Temperature has been low in the north-west, high in the south-east. Towards the end of the period the low-pressure systems in the north-west seemed to be spreading, and increasing in intensity.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.)								Rainfall.			Bright Sunshine.	
		Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
July 15th, 1889	Killarney	69	38	64·6	43·9	53·5	− 6·0	81	0	5	0·24	?	*	*

III.—DATA from which the SUMMARY on page 169 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ✠	60	44	56·4	46·9	51·5	− 2·2	67	0	4	0·31	−0·18	*	*
	Stornoway ✠	60	38	57·3	45·1	50·8	− 3·8	62	0	5	0·30	−0·39	20·0	17
	Wick ✠	64	40	59·6	45·9	52·3	− 2·9	72	0	7	0·61	+0·10	*	*
	Lairg ✠	63	42	59·1	45·1	51·6	− 3·2	67	0	5	0·46	−0·25	*	*
	Glencarron ✠	63	45	58·6	45·8	51·8	− 3·0	69	0	6	0·61†	−0·79	12·0	10
	Fort Augustus ✠	64	44	61·0	46·6	53·3	− 4·3	79	0	5	0·26†	?	*	*
1. SCOTLAND, E.	Nairn ✠	65	46	61·0	48·4	54·3	− 3·4	86	0	6	0·53	−0·07	*	*
	Aberdeen ✠	68	44	61·3	48·9	54·7	− 2·6	89	0	7	2·34	+1·71	25·0	21
	Braemar ✠	62	42	57·9	45·0	51·0	− 3·8	63	0	5	0·20	−0·48	20·7‡	18‡
	Ochtertyre ✠	69	39	64·6	45·7	54·5	− 3·5	88	0	1	0·08	−0·68	*	*
	Leith ✠	67	46	61·3	48·3	54·4	− 4·2	87	0	4	0·64	+0·01	*	*
	Marchmont ✠	63	42	59·6	46·1	52·4	− 4·2	73	0	4	1·24	+0·45	21·8	19
2. ENGLAND, N.E.	Alnwick Castle	63	45	59·3	48·0	53·3	− 4·3	79	0	4	0·57	−0·10	*	*
	Durham	69	45	64·3	48·0	55·6	− 3·0	95	0	4	0·95	+0·32	18·3	16
	Shields	66	45	60·9	48·3	54·2	− 4·3	85	0	4	0·81	+0·21	*	*
	Scarborough ✠	65	47	63·0	48·9	55·5	− 4·2	95	0	5	1·33	+0·72	? ‡	?‡
	York	67	44	64·4	48·4	55·8	− 5·6	97	0	5	0·44	−0·14	?	?
	Spurn Head	64	50	62·3	52·0	56·8	− 3·4	104	0	4	0·36	?	*	*
3. ENGLAND, E.	Hillington ✠	70	42	66·0	48·9	56·9	− 3·8	104	0	5	0·20	−0·41	39·3	35
	Yarmouth	68	49	65·1	52·6	58·4	− 3·1	115	0	4	0·95	+0·34	*	*
	Geldeston	69	46	66·3	50·3	57·7	− 3·7	110	0	4	0·33	−0·23	48·9	44
	Cambridge	70	43	67·1	49·7	57·8	− 4·9	111	0	5	0·23	−0·29	51·0	46
	Rothamsted	67	44	65·0	49·4	56·7	− 5·7	103	0	5	0·48	−0·12	*	*
	Ingatestone	68	44	66·2	49·5	57·3	− 5·6	107	0	4	0·29	−0·25	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	66	42	64·1	47·0	55·0	− 6·4	91	0	3	0·11	−0·51	27·9‡	25‡
	Loughborough	70	43	67·3	48·7	57·4	− 4·8	108	0	5	0·31	−0·21	45·9‡	41‡
	Cheadle ✠	66	43	62·5	46·7	54·1	− 6·3	85	0	6	0·71	+0·01	*	*
	Churchstoke ✠	67	40	64·3	45·1	54·0	− 6·4	84	0	6	0·64	+0·06	54·8	49
	Hereford ✠	70	43	67·2	48·1	57·0	− 4·6	105	0	6	0·73	+0·21	*	*
	Cirencester	69	40	66·6	46·7	56·0	− 5·1	98	0	5	0·35	−0·35	55·4	50
	Oxford	69	44	67·1	49·9	57·9	− 3·7	111	0	4	0·34	−0·24	59·4	54
5. ENGLAND, S.	London	71	48	67·7	52·4	59·5	− 3·8	123	0	4	0·78	+0·29	34·7‡	32‡
	Strathfield Turgiss ✠	70	46	66·8	49·5	57·6	− 3·8	109	0	6	0·92	+0·40	*	*
	Dungeness	68	50	66·4	54·1	59·8	− 1·9	125	0	3	0·60	+0·18	*	*
	Hastings (St. Leonard's)	65	50	63·9	52·4	57·8	− 3·5	111	0	5	0·55	+0·10	45·5	41
	Southampton	71	49	67·4	52·0	59·2	− 2·4	120	0	6	0·61	+0·03	48·2	44
	Hurst Castle	69	51	66·0	54·4	59·8	− 1·5	125	0	6	0·85	+0·36	*	*
	Stowell ✠	67	45	64·2	49·2	56·2	− 4·4	99	0	5	1·20	?	41·6‡	38‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	65	42	61·2	47·2	53·7	− 3·2	82	0	4	0·35†	−0·98	*	*
	Glasgow	67	45	62·0	48·6	54·8	− 2·9	90	0	7	0·39	−0·43	27·5	24
	Ardrossan	65	48	61·6	50·4	55·6	− 2·1	95	0	4	0·43	−0·22	*	*
	Glenlee ✠	65	40	60·8	46·5	53·2	− 4·3	78	0	4	1·75†	+0·81	*	*
	Douglas (Isle of Man)	65	48	61·3	50·2	55·4	− 2·1	94	0	4	0·90	+0·23	26·8	24
7. ENGLAND, N.W.	Newton Reigny (Penrith)	64	37	61·0	46·0	53·0	− 5·4	77	0	5	0·42	−0·27	21·1	18
	Barrow-in-Furness	62	49	60·0	52·6	56·0	− 3·6	98	0	3	1·38	+0·69	*	*
	Stonyhurst	62	45	60·3	48·5	54·0	− 5·2	84	0	5	0·78	−0·23	26·8	24
	Blackpool ✠	66	47	63·9	51·9	67·5	− 2·5	109	0	5	0·70	0·00	35·2	31
	Manchester	67	44	63·7	48·0	55·3	− 5·1	93	0	5	1·21	+0·33	*	*
	Liverpool Obsy (Bidston)	64	49	62·3	51·3	56·4	− 4·0	101	0	5	0·69	+0·01	*	*
	Llandudno ✠	65	51	62·5	51·9	56·8	− 3·6	104	0	5	0·51	−0·10	29·1	26
	Holyhead	64	50	61·4	51·7	56·1	− 3·4	99	0	4	0·38	−0·14	*	*
8. ENGLAND, S.W.	Llandovery	70	38	66·9	47·1	56·3	− 4·2	100	0	5	1·17	+0·29	*	*
	Pembroke	63	50	61·3	53·1	56·8	− 3·1	104	0	3	0·80	+0·28	63·3	57
	Arlington (N. Devon)	66	45	63·0	48·3	55·1	− 6·0	92	0	4	1·20	+0·08	*	*
	Cullompton ✠	71	41	67·6	47·5	56·9	− 4·7	104	0	6	0·45	−0·17	45·1	41
	Falmouth	67	50	64·1	52·5	57·9	− 3·3	111	0	5	0·73	+0·03	55·4	51
	Plymouth	71	49	66·9	52·8	59·4	− 2·3	122	0	5	0·79	+0·19	45·3	42
	Prawle Point	67	44	62·3	50·6	56·0	− 3·9	98	0	4	0·68	?	*	*
9. IRELAND, N.	Malin Head	59	49	57·0	51·0	53·8	− 2·9	83	0	7	0·65	?	*	*
	Londonderry	65	47	59·9	48·3	53·7	− 4·8	82	0	6	0·56	−0·21	*	*
	Mullaghmore	63	49	60·1	51·3	55·4	− 4·3	94	0	6	1·17	+0·29	*	*
	Belmullet	63	47	59·3	51·0	54·9	− 2·8	90	0	4	0·95	?	*	*
	Markree Castle	64	40	59·5	47·4	53·0	− 6·7	77	0	6	1·02	+0·28	17·5	15
	Brookeborough	63	40	58·4	46·5	52·0	− 8·0	70	0	4	1·04	?	*	*
	Armagh	63	43	60·2	47·4	53·4	− 6·4	80	0	6	1·01	+0·30	20·3	18
	Donaghadee	64	50	61·7	51·6	56·3	− 1·9	100	0	4	0·99	+0·39	*	*
	Edgeworthstown	64	44	62·3	47·1	54·2	− 5·6	85	0	6	1·31	+0·50	*	*
10. IRELAND, S.	Dublin	65	46	62·6	49·9	55·8	− 4·1	97	0	5	1·36	+0·82	29·1	26
	Parsonstown	65	40	63·1	48·0	55·0	− 4·3	91	0	5	0·50	−0·19	32·0	29
	Kilkenny	68	44	64·1	48·4	55·7	− 4·4	96	0	5	0·86	+0·32	*	*
	Waterford	71	45	67·6	48·7	57·5	− 3·2	109	0	5	1·39	+0·76	*	*
	Roche's Point	66	49	64·0	51·4	57·3	− 3·5	107	0	3	0·70	−0·01	*	*
	Valencia	65	45	63·6	50·6	56·7	− 2·4	103	0	5	1·12	+0·23	54·4	49
	Killarney	66	43	63·0	48·2	55·1	− 4·4	92	0	4	0·48	?	*	*
	Foynes	64	47	61·5	50·9	55·8	− 3·7	97	0	6	1·38	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	67	53	63·9	55·0	59·1	− 1·6	120	0	4	0·72	+0·20	*	*
	Jersey	69	49	65·6	54·3	59·6	− 2·1§	123	0	2	0·66	+0·16	60·7	56

Stations marked ✠ are in connection with the Royal Meteorological Society, and those marked ✠ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

§ The corresponding value in last week's report should read "+0·9."

(OFFICIAL COPY.)

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 30.] *Third Series.* WEEK ENDING MONDAY, 29TH JULY, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number, TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

DISTRICTS. (See p. 180.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
	°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	73	40	61·7	48·6	54·7	1 below.	89	+ 2	0	0	1145	+188	514	+ 4
1. SCOTLAND, EAST	76	36	65·6	48·2	56·3	1 below.	100	− 8	0	0	1353	+ 64	548	+ 5
2. ENGLAND, N.E.	74	42	63·4	50·4	56·4	3 below.	101	−15	0	0	1406	+ 40	489	+ 7
3. ENGLAND, EAST	72	43	64·9	50·9	57·5	5 below.	109	−19	0	0	1639	+ 17	619	+112
4. MIDLAND COUNTIES	77	40	65·9	49·3	57·1	4 below.	106	−18	0	0	1648	+ 21	564	+ 60
5. ENGLAND, SOUTH	76	45	66·1	52·7	59·0	3 below.	119	−16	0	0	1812	+ 72	448	+ 75
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	70	37	62·9	48·7	55·3	2 below.	93	−15	0	0	1457	+ 94	375	− 23
7. ENGLAND, N.W.	73	38	63·1	50·9	56·6	3 below.	102	−15	0	0	1513	+ 71	382	− 1
8. ENGLAND, S.W.	80	42	63·8	52·0	57·5	3 below.	109	−15	0	0	1665	+ 3	321	+ 88
9. IRELAND NORTH	72	41	63·4	49·9	56·2	3 below.	99	−10	0	0	1487	+ 51	297	− 53
10. IRELAND, SOUTH	74	45	65·3	51·9	58·2	2 below.	113	− 5	0	0	1675	+ 22	225	− 14
— CHANNEL ISLANDS	67	53	63·6	55·6	59·3	2 below.	121	−11	0	0	1870	+ 97	77	− 16

Rainfall. Bright Sunshine.

DISTRICTS. (See p. 180.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
		10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	4	5	2 less.	138	+10	20·8	−1·4	26	23	676	−147	24	− 5
1. SCOTLAND, EAST	3	5	2 less.	109	+ 2	13·4	−3·6	37	32	851	− 76	31	− 2
2. ENGLAND, N.E.	4	6	0 (average).	100	− 5	12·4	−2·0	25	22	787	− 65	28	− 3
3. ENGLAND, EAST	5	5	0 (average).	107	0	14·3	+0·7	21	19	819	−221	30	− 8
4. MIDLAND COUNTIES	4	5	1 less.	100	− 6	16·8	+1·3	30	28	780	−129	28	− 5
5. ENGLAND, SOUTH	4	8	3 more.	105	+ 5	13·7	−0·8	30	28	801	−171	29	− 6
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	3	6	3 less.	115	− 3	21·3	−3·0	33	34	893	+ 13	32	0
7. ENGLAND, N.W.	3	6	1 less.	105	− 4	15·5	−2·3 *	36	32	870	− 21	31	− 1
8. ENGLAND, S.W.	4	7	1 less.	104	−11	18·6	−3·9	35	33	974	− 65	36	− 2
9. IRELAND, NORTH	4	5	3 less.	127	− 4	18·8	−0·4	41	37	767	− 72	28	− 2
10. IRELAND, SOUTH	5	8	1 more.	115	− 8	18·6	−2·9	37	33	940	− 3	34	− 1
— CHANNEL ISLANDS	5	4	1 less.	113	−10	14·8	−2·0	37	35	1070	−153	39	− 6

General Remarks.

Weather has again been in an unsettled condition very generally, with occasional (but not heavy) falls of rain. Towards the end of the period, however, the conditions underwent considerable improvement. Some thunder and lightning were experienced from time to time in various parts of the Kingdom.

Temperature has continued below the mean, the deficit having ranged from 1° in the north and east of Scotland to 4° over central England and 5° in "England, E." The daily maxima were very low for the time of year, but towards the end of the period temperature was rising, and readings varying between 73° and 80° were generally recorded. The lowest of the minima occurred during the earlier part of the week, and ranged from 36° to 40° in Scotland, from 38° to 45° over England, and from 41° to 45° over Ireland. In the "Channel Islands" the lowest reading was 53°.

Rainfall has been rather more than the mean in "England, S." and "Ireland, S.", but somewhat less in most other districts.

Bright sunshine has been deficient very generally. The percentage of the possible amount of duration having ranged from 19 in "England, E." to 37 in "Ireland, N."

Barometer and Wind.—Soon after the commencement of the period a well marked depression appeared off our north-western coasts and travelled east-south-eastwards to the north of England, and subsequently east-north-eastwards to Scandinavia. In addition to this disturbance some small shallow subsidiaries appeared in various parts of the Kingdom; but towards the close of the period the barometer rose very generally, and gradients, which had previously been rather steep, became slight. Fresh to strong winds between South-West and North-West were most prevalent on our coasts, but during the night of the 24th—25th a moderate to fresh gale was experienced on our southern coasts, and in the Channel.

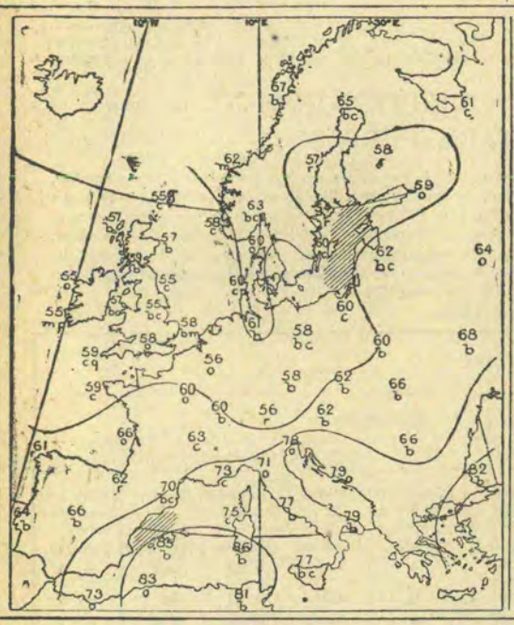
* For errata, see page 179.

59576. 350.—8/89. Wt. 36. E. & S.

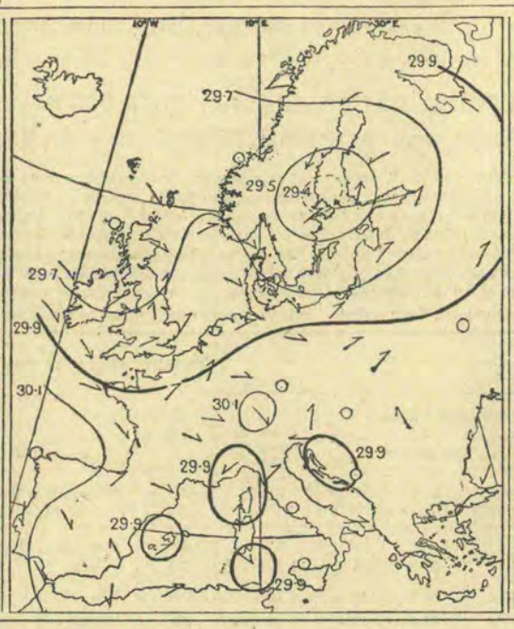
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 23rd July.

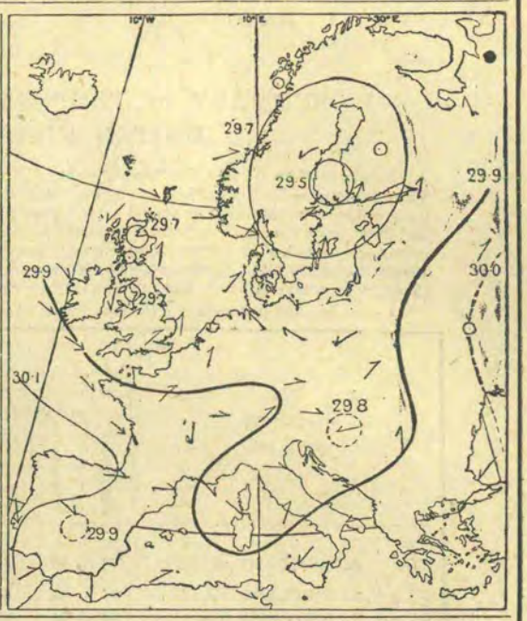
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine over south-western, southern, and south-eastern Europe, and in Scotland; dull and rainy in the north, cloudy, changeable, and showery over Ireland, England and the Netherlands. Showers generally later, and heavy falls of rain in some localities, notably at Pesaro and Carlsruhe; thunderstorms at some German stations.

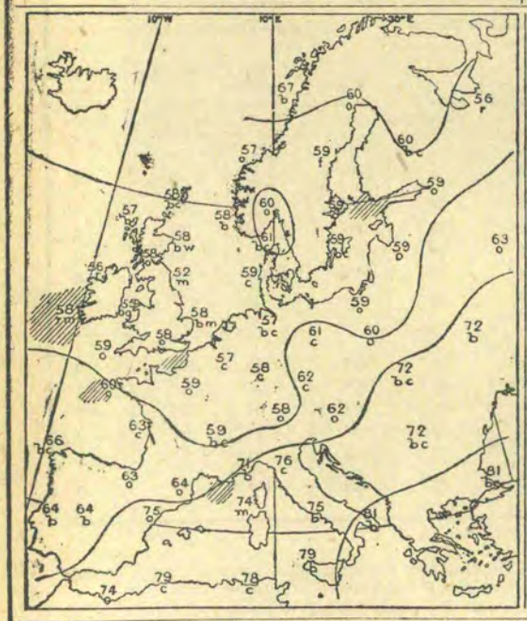
Temperature low in the north-west and also over Central Europe; morning readings still above 80° in some parts of Algeria and at Constantinople, and exceeding 70° on the Mediterranean coasts generally, but below 60° in several parts of Germany and over the greater part of the British Islands. Daily maxima not exceeding 60° over the British Islands (except at Leith), but exceeding 100° over Algeria, 90° over the southern parts of Italy, and only a little below 90° over Austria Hungary.

Wind varying between South-West and North-West over the greater part of the Baltic and North-Western Europe, and blowing strongly from the former direction over the Gulf of Finland; Easterly in Lapland, South-Easterly in the north of Scotland, and very variable over Central, Southern, and South-Western Europe. Not much change later, except in the West of our Islands where it began to veer Northwards for a time, but soon backed again.

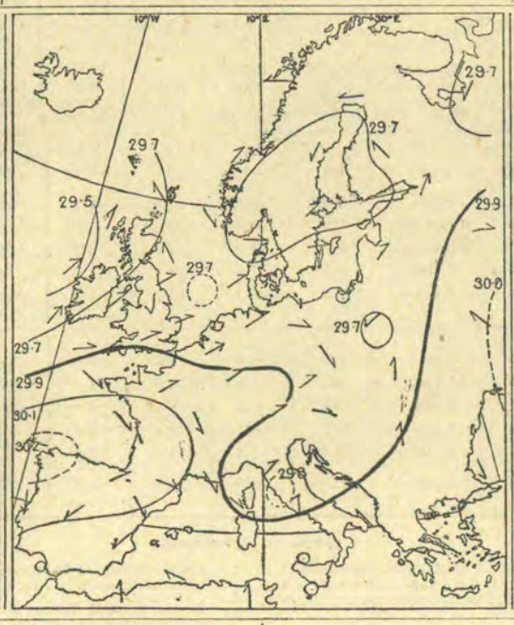
Barometer highest (29·9 ins. to 30·1 ins. and more) over South-Western, Southern, and South-Eastern Europe; lowest, 29·4 ins. and less, in a depression over the Baltic, and 29·6 ins. and less in another lying off the north-west of Ireland. Both depressions filling up later, and a fresh fall of the barometer commencing in the west subsequently.

Wednesday, 24th July.

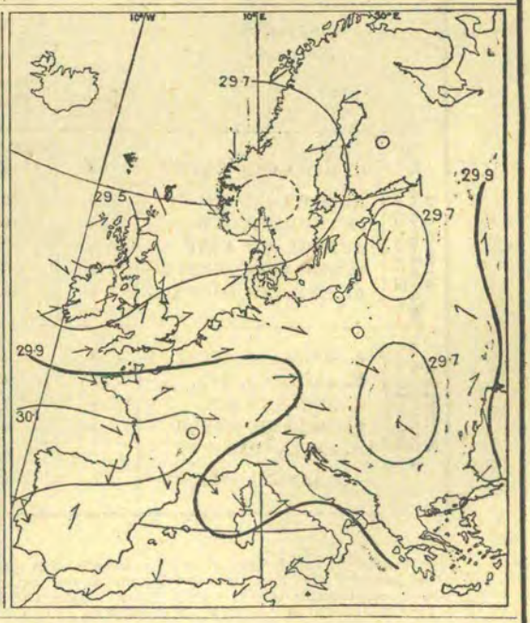
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather still fine in the extreme south and south-east of Europe, cloudy and changeable elsewhere, with rain at times in many localities. Showers general over north-western and Central Europe during the day, and rather heavy at some stations.

Temperature still low in the north-west and also over Germany, with very little change of a decided character; high in several localities over the Mediterranean and South-Eastern Europe, and (for the region) over Lapland also. Morning readings still below 60° over Western Germany, France, and the greater part of the British Islands, and daily maxima falling short of 70° in the British Isles and at most of the German stations, but still high over Italy and Algeria.

Wind Westerly to South-Westerly over North-Western Europe, Easterly in the far north; very variable over the Mediterranean and the south-eastern countries, Northerly in Spain. Increasing decidedly from the Southward over the western parts of the British Islands at first, but soon veering to the Westward again, and moderating.

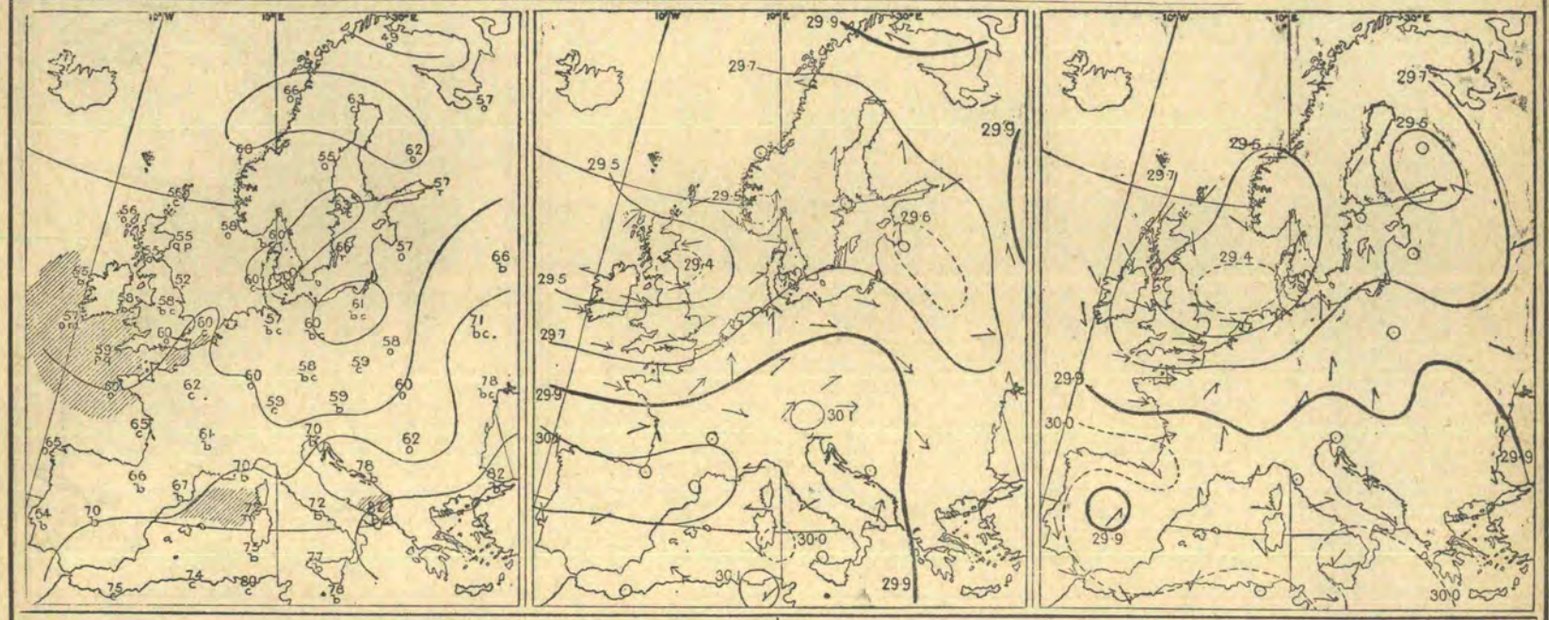
Barometer highest, 30·2 ins. to 30·0 ins. over Spain and the western half of France, 30·0 ins. to 30·1 ins. over Russia; lowest, 29·7 ins. and less, in a depression over Scandinavia and Finland, 29·5 ins. and less in a new large disturbance lying off our north-western coasts, and 29·8 ins. and less in another small system near Rome. Local disturbances over the North Sea and Poland. Depression in north-west moving eastwards later, those over Northern and Eastern Europe becoming less deep.

II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 25th July.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather continuing fine over south-western, southern, and south-eastern Europe. Very changeable and showery in the North-West and North; rainfall somewhat considerable at a few stations, but not large generally.

Temperature fallen decidedly over Central Europe, changing fitfully over the British Islands and their neighbourhood. Continuing high over the southern and south-eastern countries and also in the far north; low elsewhere. Daily maxima but little above 60° in our Islands, and little above 70° over Germany, but remaining above 100° over Central Algeria, and much above 90° over some parts of Italy, Switzerland and Central Spain.

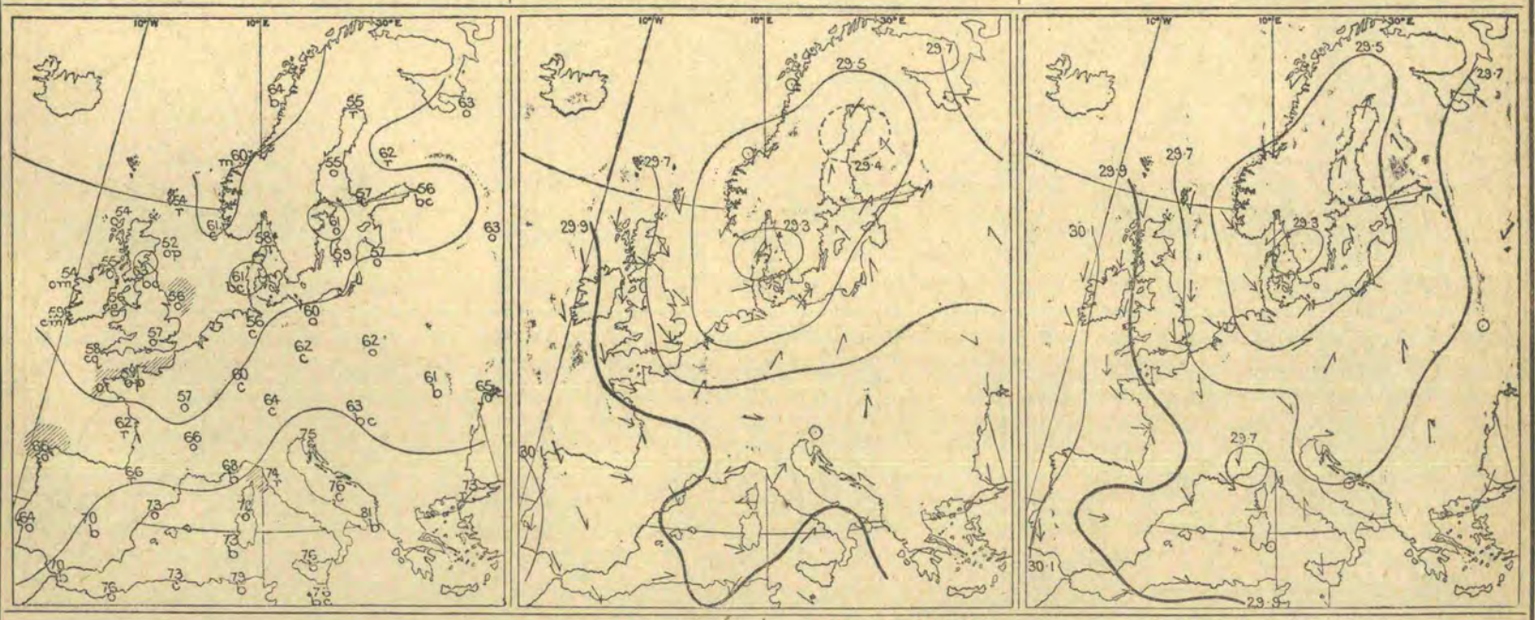
Wind very light and variable over South-Western Europe and the Mediterranean; North-Westerly over Austria and the Balkan Peninsula. Fresh South-Westerly to Southerly over Germany and the Netherlands, and Westerly over England and the south of Ireland, but Easterly both in Lapland, the Shetlands, and north and east of Scotland, as well as in the north-west of Ireland. Strong to a moderate gale at our Channel stations, and gale freshening a little in exposed places later.

Barometer still high (30·00 ins. to 30·15 ins.) over south-western and southern Europe, 29·9 ins., and falling, over Russia; lowest (minima 29·4 ins. and less) over the British Islands; distribution complex, and changes rather irregular. Decided rise taking place over the western parts of the British Islands later, and gradients in those regions becoming favourable for winds from the northward, as the depression over our north-eastern districts moved eastwards.

Friday, 26th July.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather continuing fine over the south-eastern and extreme southern parts of the Mediterranean, cloudy and unsettled elsewhere, with rain in many places, and an unsettled appearance generally. Rainfall less general in our Islands during the day, and less heavy over the Continent than of late. Thunder and lightuing in the south of France and some parts of our Islands.

Temperature fallen in the south of Russia and the Balkan Peninsula; low generally except over Algeria and the south of Italy, especially low over the north-west of Germany. Daily maxima below 70° in our Islands, and below 60° at the northern and north-western stations. Less high over the southern parts of Italy than of late, but rising to between 110° and 116° Faht. over Central Algeria and to 100° at Cagliari during the day.

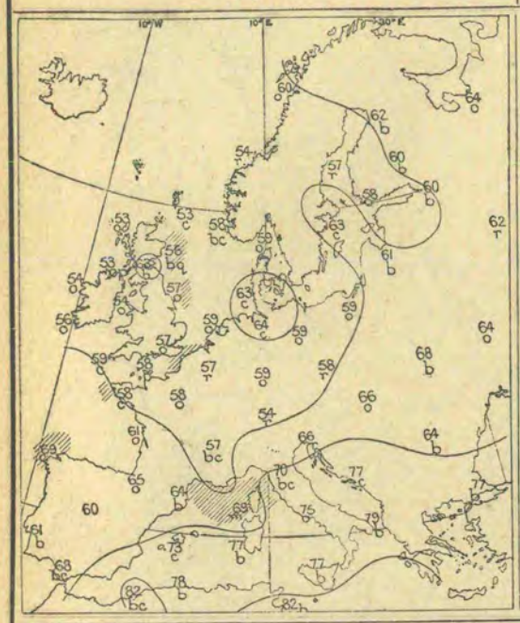
Wind veering decidedly to the North-Westward and Northward over western Europe and the British Islands, but continuing southerly and South-Westerly over the Baltic, Germany, and the north-east of France. Very variable over southern Europe, but mainly South-Westerly in the north of Italy and North-Westerly over the Gulf of Lyons. The North-Westerly wind spreading to the North Sea later, and blowing freshly on its eastern shores.

Barometer rising throughout our Islands, falling elsewhere. Depressions over Denmark and Finland in morning, moving north-eastwards, and undergoing great modification; smaller shallow system over the Mediterranean. New high-pressure approaching the western stations from the Atlantic.

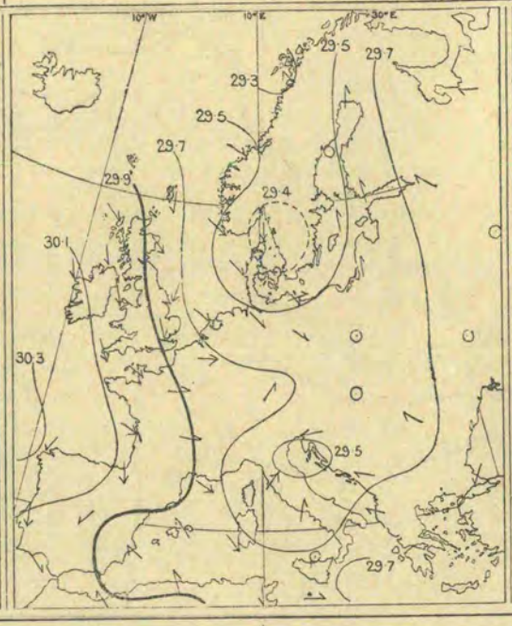
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 27th July.

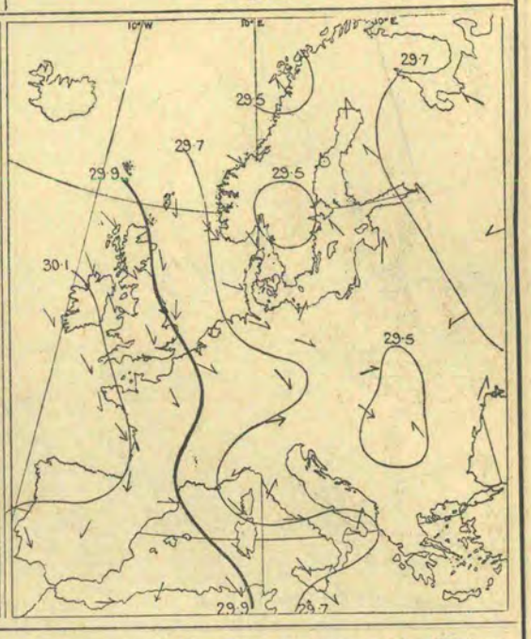
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather fine over the greater part of Southern Europe, but cloudy or overcast in most other localities, with rain at many of the German and Austrian, as well as at some of the Scandinavian and Russian, stations. Showers falling later in many parts of the United Kingdom: a thunderstorm in London. Thunderstorms, with heavy rain, also occurring at some of the German stations, the largest amounts being 2·6 ins. at Wiesbaden and 0·9 in. at Munich.

Temperature highest, 75° and upwards, over the central and southern parts of the Mediterranean; lowest, 55° or less, in isolated portions of the United Kingdom. Daily maxima below 70° at most of our own stations, and below 60° on our extreme north and north-west coasts, but thermometer rising to above 80° at some of the French and Spanish stations, above 90° over Southern Italy, and above 100° in Central Algeria. Highest readings of all, 104° at Biskra and Laghouat, 100° at Cagliari, and 95° at Brindisi and Tunis.

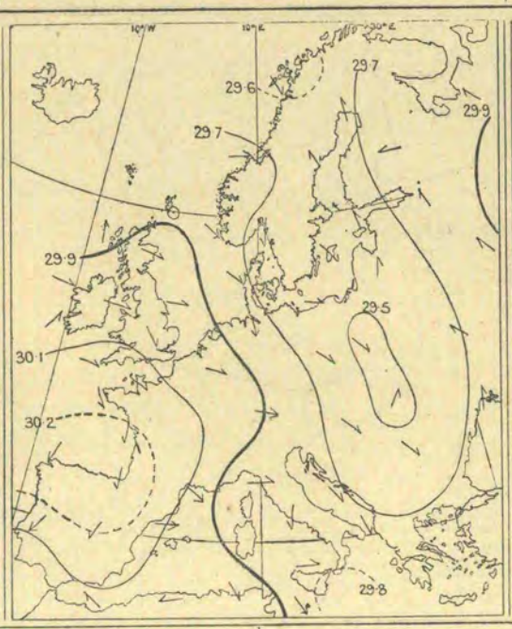
Wind light to fresh from the North-Westward or Northward over nearly the whole of Western Europe, but South-Westerly at some of the Italian stations, and Southerly or South-Easterly over the Adriatic and Western and Northern Russia. Light South-Easterly breezes also reported over the western parts of the Mediterranean. Subsequently backing to the Westward on some parts of our extreme western coasts.

Barometer highest, 30·2 ins. and upwards, in an anticyclone lying to the south-westward of Ireland and the north-westward of Spain. Lowest, 29·3 ins. and less, in a small depression lying near Bodö, but low, 29·4 ins. and less, in another disturbance lying over the south of Scandinavia, and 29·5 ins. and less in a third system lying over Northern Italy. Depressions all filling up later, but barometer beginning to fall again in the extreme west of our Islands.

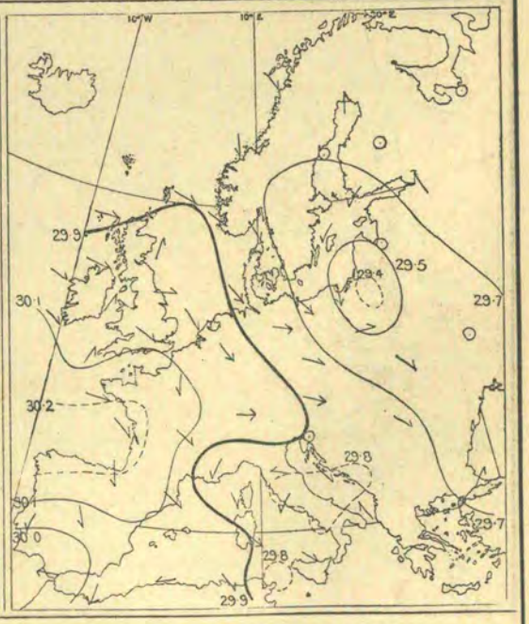
Sunday, 28th July.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.**



6 p.m.



Weather fine over southern Europe and the Mediterranean as well as in the south of Scandinavia, but cloudy or overcast elsewhere, with rain in Ireland as well as in Poland and some parts of Germany. Fog reported at Christiansund, and a thunderstorm at Hermanstadt. Showers falling later in nearly all parts of Western Europe, and thunderstorms occurring at some of the French and German stations.

Temperature highest, 75° and upwards, at the Mediterranean stations; high, 65° and upwards, over Central Russia. Lowest, 55° or less, in some of the western and northern parts of the United Kingdom, as well as in the west of Norway. Daily maxima again below 70° in most parts of our Islands, as well as in the west and north of France, but thermometer rising above 75° in the south of France, above 80° at some of the Spanish and Italian stations, and above 90° in Central Algeria. Highest readings of all 99° at Cagliari, 95° at Biskra, and 91° at Laghouat.

Wind North-Westerly or Northerly over Norway, Denmark, France, and the greater part of central and southern Europe; North-Easterly in Spain. South-Westerly in the west and north-west of our Islands; Southerly or South-Easterly in Russia and the north of Sweden. Light or moderate in force at nearly all stations. Subsequently veering to the Westward on our western coast.

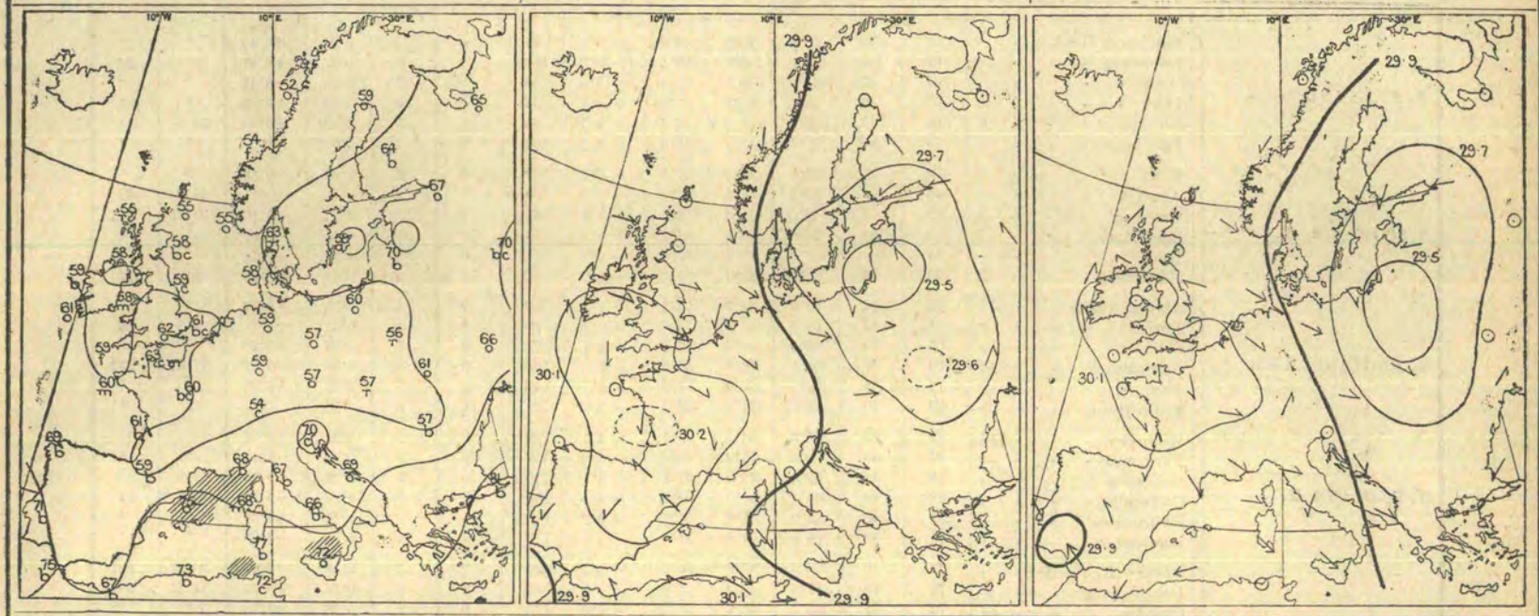
Barometer highest, 30·2 ins. and upwards, in an anticyclone lying over the Bay of Biscay and the north of Spain; high, 29·9 ins. and upwards, over central Russia. Lowest, 29·5 ins. and less, in an elongated depression lying over Poland and Galicia; low, 29·6 ins. and less, in another disturbance lying over the north of Scandinavia, and 29·8 ins. and less in a third system lying near Malta. Several small and exceedingly shallow depressions subsequently advancing eastwards over the United Kingdom, and barometer falling slowly in most places.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 29th July.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine in all the more southern countries, as well as in Finland and the south of Scandinavia. Cloudy in most other localities, with fog on the south-west coasts of our Islands, and rain at some of the Scotch stations, as well as in Poland and Eastern Germany. Considerable amounts of rain falling later in various parts of Germany later, and thunderstorms occurring in Poland.

Temperature highest, 70° and upwards, over Central Russia, the Mediterranean, and the coasts of the Iberian peninsula; lowest, 55° or less, in the west of Norway and the extreme north of Scotland. Daily maxima a little above 75° in some parts of Central England, above 80° in the south of France, and above 90° at some of the Spanish and Algerian stations, the highest readings of all being 93° at Biskra and Laghouat, 91° at Madrid and Lisbon.

Wind light from the South-Westward and Southward on the west coasts of our Islands, and from the Westward or North-Westward in the east and south of Great Britain. Moderate to strong from the Northward in Scandinavia, from the North-Westward in Denmark and North Germany, and from the Westward in Austria and Central Germany, but light from South-East over Central and Northern Russia. Subsequently backing to the South-Eastward in the west and south of Ireland.

Barometer highest, 30·2 ins. and upwards, in an anticyclone lying over France; lowest, 29·5 ins. and less, in a depression lying over Eastern Germany and the southern part of the Baltic Provinces; low, 29·6 ins. and less, in another depression lying between Lemberg and Kiev. Slight fall taking place later over Spain and the west coasts of our Islands and France, and new depression appearing over the south of Portugal.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the earlier part of this period pressure was uniformly rather high over the south-western, southern, and south-eastern countries of Europe, lowest in the north-west. In the former regions the winds were light, the temperature was rather high, and the weather fine. In the latter, depressions of no great intensity appeared from time to time; the weather was cold for the period of year, showery, and at times thundery, and the wind occasionally blew strongly from between South-West and North-West. These cold and unsettled conditions spread gradually to Central Europe as the week advanced, but towards its close a new high-pressure system began to approach Western Europe from the Atlantic, and a considerable improvement took place in the weather over the British Islands and France.

ERRATA.—Owing to an error in calculation the figures printed under the head of "Rainfall, from Jan. 1, 1889—Difference from the Mean" for "England, N.W." have been incorrect from the week ending April 22 to that ending July 22. Below will be found the correct values.

DATE.	Difference from Mean.	DATE.	Difference from Mean.	DATE.	Difference from Mean.	DATE.	Difference from Mean.
Week ending April 22	− 1·6	Week ending May 20	− 0·6	Week ending June 17	− 0·7	Week ending July 15	− 2·2
„ „ 29	− 1·5	„ „ 27	− 0·9	„ „ 24	− 1·3	„ „ 22	− 2·1
„ May 6	− 1·3	„ June 3	+ 0·1	„ July 1	− 1·9		
„ „ 13	− 0·5	„ „ 10	− 0·2	„ „ 8	− 2·5		

III.—DATA from which the SUMMARY on page 175 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ⚓	62	48	58·1	49·6	53·6	− 0·1	81	0	1	0·01	−0·49	*	*
	Stornoway ⚓	61	?46	59·6	?48·7	?53·8	? − 0·9	?83	0	5	0·77	+0·07	31·9	28
	Wick ⚓	65	45	61·0	49·1	54·3	− 0·6	88	0	2	0·05	−0·47	*	*
	Lairg ⚓	67	40	63·5	47·7	55·1	+ 0·1	92	0	5	0·84	+0·15	*	*
	Glencarron ⚓	66	42	62·2	48·0	54·6	− 0·3	88	0	5	0·52†	−0·89	20·5	18
	Fort Augustus ⚓	73	43	65·8	48·4	56·5	− 1·2	102	0	4	0·60†	?	*	*
1. SCOTLAND, E.	Nairn	72	42	67·0	49·3	57·5	− 0·2	109	0	2	0·07	−0·53	*	*
	Aberdeen	66	41	62·0	48·7	54·9	− 2·3	90	0	4	0·10	−0·57	44·9	39
	Braemar ⚓	69	36	63·0	45·3	53·5	− 1·3	81	0	4	0·82	+0·10	35·2‡	31‡
	Ochtertyre ⚓	76	40	70·0	49·0	58·8	+ 0·8	118	0	2	0·70	−0·07	*	*
	Leith	74	44	67·3	49·7	57·9	− 0·7	111	0	2	0·76	+0·14	*	*
	Marchmont ⚓	70	42	64·3	46·9	55·0	− 1·7	91	0	4	0·56	−0·23	29·8	26
2. ENGLAND, N.E.	Alnwick Castle	66	42	61·9	51·1	56·1	− 1·5	99	0	4	0·95	+0·27	*	*
	Durham	74	42	64·9	49·1	56·5	− 2·1	102	0	4	0·81	+0·17	22·2	20
	Shields	68	45	62·6	49·6	55·7	− 2·7	96	0	3	0·82	+0·22	*	*
	Scarborough ℳ	66	44	62·5	50·9	56·3	− 3·3	100	0	4	0·60	−0·01	27·1‡	24‡
	York	73	43	66·7	49·0	57·2	− 4·2	106	0	3	0·22	−0·36	?	?
	Spurn Head	66	49	62·	52·4	56·5	− 3·6	102	0	3	0·14	?	*	*
3. ENGLAND, E.	Hillington ℳ	70	43	64·4	48·8	56·1	− 4·5	99	0	6	0·82	+0·21	21·1	19
	Yarmouth	67	49	63·1	54·0	58·2	− 3·2	113	0	6	0·43	−0·17	*	*
	Geldeston	69	44	65·2	50·0	57·1	− 4·1	106	0	5	0·37	−0·15	26·5	24
	Cambridge	72	43	66·1	50·0	57·5	− 5·3	109	0	3	0·23	−0·29	15·7	14
	Rothamsted	71	46	65·0	51·4	57·7	− 4·7	110	0	5	1·17	+0·57	*	*
	Ingatestone	71	48	65·8	51·4	58·1	− 4·9	113	0	5	0·24	−0·29	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	71	40	65·4	47·9	56·0	− 5·3	98	0	5	0·48	−0·13	23·9‡	22‡
	Loughborough	76	40	67·4	49·9	58·0	− 4·0	112	0	6	0·78	+0·25	27·2‡	25‡
	Cheadle ℳ	72	45	63·1	49·2	56·7	− 3·9	103	0	3	0·28	−0·44	*	*
	Churchstoke ℳ	76	41	65·4	48·4	56·3	− 3·9	100	0	4	0·45	−0·13	35·9	33
	Hereford ℳ	77	45	68·1	49·5	58·2	− 3·4	113	0	4	0·57	+0·05	*	*
	Cirencester	74	42	65·9	48·6	56·6	− 4·6	102	0	4	0·43	−0·27	41·6	38
	Oxford	75	46	65·7	51·3	58·0	− 3·5	112	0	4	0·60	+0·03	22·1	20
5. ENGLAND, S.	London	73	48	67·1	52·6	59·4	− 3·9	122	0	6	0·52	+0·02	21·6‡	20‡
	Strathfield Turgiss ℳ	75	45	66·7	50·9	58·3	− 3·1	114	0	5	0·61	+0·09	*	*
	Dungeness	68	50	65·9	54·1	59·6	− 2·1	123	0	4	0·46	+0·04	*	*
	Hastings (St. Leonard's)	70	49	65·1	53·4	58·8	− 2·6	118	0	5	1·29	+0·82	30·0	28
	Southampton	76	50	68·6	52·8	60·2	− 1·4	127	0	4	0·77	+0·19	38·0	35
	Hurst Castle	72	52	66·7	54·3	60·1	− 1·2	127	0	4	0·70	+0·21	*	*
	Stowell ℳ	73	48	62·9	51·1	56·6	− 4·0	102	0	3	0·89	?	30·0‡	28‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	66	45	63·1	50·3	56·3	− 0·7	100	0	3	0·53†	−0·75	*	*
	Glasgow	70	44	64·3	49·7	56·5	− 1·4	102	0	3	0·51	−0·32	28·8	25
	Ardrossan	65	47	62·1	50·7	56·0	− 1·7	98	0	2	0·50	−0·19	*	*
	Glenlee ⚓	69	37	63·4	46·8	54·5	− 3·4	88	0	3	1·11	+0·16	*	*
	Douglas (Isle of Man)	70	40	61·7	46·1	53·4	− 4·3	80	0	2	0·33	−0·36	48·0	43
7. ENGLAND, N.W.	Newton Reigny (Penrith)	70	38	64·4	46·5	54·8	− 3·6	90	0	3	0·49	−0·21	32·9	29
	Barrow-in-Furness	64	50	61·0	52·0	56·2	− 3·5	99	0	3	0·65	−0·05	*	*
	Stonyhurst	69	44	63·3	50·6	56·5	− 2·7	102	0	4	1·00	−0·02	34·9	31
	Blackpool ℳ	73	48	64·8	51·8	67·9	− 2·3	111	0	4	0·52	−0·18	40·1	36
	Manchester	71	44	64·2	48·9	56·0	− 4·4	98	0	5	0·61	−0·26	*	*
	Liverpool Obsy (Bidston)	67	50	62·6	52·9	57·5	− 3·2	109	0	3	0·63	−0·03	*	*
	Llandudno ℳ	70	46	63·2	51·8	57·1	− 3·6	106	0	2	0·92	+0·31	34·2	31
	Holyhead	65	48	61·4	52·3	56·5	− 3·0	102	0	3	0·19	−0·36	*	*
8. ENGLAND, S.W.	Llandovery	80	42	66·9	49·3	57·5	− 3·0	109	0	5	1·09	+0·18	*	*
	Pembroke	61	53	59·7	53·6	56·4	− 3·5	101	0	4	0·45	−0·09	27·5	25
	Arlington (N. Devon)	70	47	61·6	50·0	55·4	− 5·5	94	0	4	1·00	−0·17	*	*
	Cullompton ℳ	77	49	66·4	51·1	58·2	− 3·3	113	0	3	0·54	−0·08	35·7	33
	Falmouth	66	50	62·7	53·8	57·9	− 3·3	111	0	4	0·47	−0·26	38·8	36
	Plymouth	71	53	66·6	54·6	60·2	− 1·5	127	0	3	0·71	+0·09	39·1	37
	Prawle Point	69	50	63·0	51·9	57·1	− 2·8	106	0	4	0·32	?	*	*
9. IRELAND, N.	Malin Head	65	49	60·0	52·0	55·7	− 1·2	96	0	4	0·33	?	*	*
	Londonderry	72	46	65·7	50·0	57·3	− 1·2	107	0	3	0·29	−0·48	*	*
	Mullaghmore	67	45	62·1	51·1	56·2	− 3·4	99	0	4	0·53	−0·33	*	*
	Belmullet	65	49	60·4	52·3	56·1	− 1·6	99	0	7	0·97	?	*	*
	Markree Castle	70	42	62·8	48·7	55·3	− 4·4	93	0	6	0·64	−0·11	37·3	34
	Brookeborough	71	41	65·1	47·2	55·5	− 4·3	95	0	3	0·49	?	*	*
	Armagh	72	47	66·3	48·5	56·8	− 3·0	104	0	3	0·20	−0·50	44·0	40
	Donaghadee	64	49	61·9	51·3	56·2	− 2·0	99	0	2	0·15	−0·47	*	*
	Edgeworthstown	72	42	66·3	48·0	56·5	− 3·3	102	0	4	0·50	−0·30	*	*
10. IRELAND, S.	Dublin	69	49	66·0	51·7	58·3	− 1·5	114	0	4	0·38	−0·20	47·7	43
	Parsonstown	74	48	67·0	50·3	58·1	− 1·2	113	0	4	1·21	+0·51	36·6	33
	Kilkenny	73	45	66·0	50·1	57·5	− 2·7	109	0	4	0·83	+0·26	*	*
	Waterford	74	48	69·6	51·3	59·8	− 0·8	125	0	6	0·49	−0·13	*	*
	Roche's Point	66	50	63·7	52·4	57·7	− 3·0	110	0	5	0·62	−0·09	*	*
	Valencia	67	51	63·0	53·0	57·7	− 1·4	110	0	6	0·69	−0·20	24·7	23
	Killarney	74	50	64·2	52·1	57·7	− 1·8	110	0	5	0·66	?	*	*
	Foynes	72	51	63·2	54·3	58·4	− 0·8	115	0	5	1·19	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	64	53	62·4	55·1	58·5	− 2·3	116	0	5	0·24	−0·27	*	*
	Jersey	67	53	64·7	56·1	60·1	− 1·8	127	0	5	0·57	+0·07	36·6	35

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ⚓ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 31.] *Third Series.* WEEK ENDING MONDAY, 5TH AUGUST, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861-80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866-85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881-85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 186.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	79	47	65·5	51·8	58·3	3 above.	114	+31	0	0	1259	+216	514	+ 4
	1. SCOTLAND, EAST	81	46	68·2	52·6	59·9	3 above.	125	+17	0	0	1478	+ 80	548	+ 5
	2. ENGLAND, N.E.	80	49	69·7	54·9	61·8	3 above.	139	+23	0	0	1545	+ 59	489	+ 7
	3. ENGLAND, EAST	83	49	72·9	55·6	63·7	2 above.	152	+24	0	0	1782	+ 35	619	+112
	4. MIDLAND COUNTIES	82	48	72·9	54·2	63·0	2 above.	147	+23	0	0	1795	+ 38	564	+ 60
	5. ENGLAND, SOUTH	85	50	71·3	57·1	63·7	2 above.	152	+16	0	0	1964	+ 85	448	+ 75
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	75	45	66·3	53·8	59·7	2 above.	124	+15	0	0	1581	+105	375	− 23
	7. ENGLAND, N.W.	84	46	69·2	54·8	61·5	2 above.	137	+19	0	0	1650	+ 87	382	− 1
	8. ENGLAND, S.W.	80	48	67·1	55·7	61·0	0 (average).	133	+ 7	0	0	1798	+ 7	321	+ 88
	9. IRELAND NORTH	78	44	65·6	53·4	59·1	0 (average).	120	+10	0	0	1607	+ 56	297	− 53
	10. IRELAND, SOUTH	73	46	66·1	54·3	59·8	0 (average).	125	+ 6	0	0	1800	+ 23	225	− 14
	— CHANNEL ISLANDS	80	56	68·5	58·6	63·3	2 above.	149	+15	0	0	2019	+111	77	− 16

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 186.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	5	6	1 less.	143	+11	21·4	−1·5	24	22	700	−145	24	− 5
	1. SCOTLAND, EAST	4	11	4 more.	113	+ 3	14·5	−3·2	39	35	890	− 74	31	− 2
	2. ENGLAND, N.E.	4	6	0 (average).	104	− 3	13·0	−2·0	43	40	828 *	− 58	29	− 2
	3. ENGLAND, EAST	4	6	1 more.	111	+ 1	14·9	+0·8	59	55	878	−196	31	− 7
	4. MIDLAND COUNTIES	4	6	0 (average).	104	− 4	17·4	+1·3	50	47	830	−114	29	− 4
	5. ENGLAND, SOUTH	4	5	0 (average).	109	+ 6	14·2	−0·8	52	49	853	−159	30	− 6
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	4	9	0 (average).	119	− 2	22·2	−3·4 †	26	24	924	+ 3	32	0
	7. ENGLAND, N.W.	4	12	5 more.	109	− 3	16·7	−1·8	42	39	912	− 16	32	0
	8. ENGLAND, S.W.	5	10	2 more.	109	− 9	19·6	−3·7	37	35	1011	− 73	36	− 2
	9. IRELAND, NORTH	5	14	6 more.	132	− 3	20·2	+0·3	24	22	791	− 78	28	− 2
	10. IRELAND, SOUTH	5	9	1 more.	120	− 7	19·5	−2·7	38	36	977 *	0	34	0
	— CHANNEL ISLANDS	3	7	2 more.	116	− 9	15·5	−1·8	50	48	1120	−172	40	− 6

General Remarks.

Weather was fine and dry in nearly all parts of our Islands during the early days of the period, but subsequently became very unsettled, squally, and rainy, with occasional thunder and lightning.

Temperature has just equalled the mean in Ireland and the south-west of England, but in all other districts it has been 2° or 3° above. The highest of the maxima were recorded between 30th July and 1st August, and varied from 73° to 78° in Ireland, from 75° to 81° in Scotland, and from 80° to 85° over England. Towards the end of the time the maxima were much lower, the thermometer in some cases not reaching 60°, and only rising to 70° at a few of our southern stations. The lowest of the minima, which were registered on somewhat irregular dates, ranged from 44° in "Ireland, N." to 50° in "England, S.", and 56° in the "Channel Islands".

Rainfall has been a little less than the mean in "Scotland, N." and about equal to it over southern, central, and north-eastern England, as well as in the west of Scotland. Over Ireland, the western parts of England, the "Channel Islands", and in "England, E.", however, an excess is shown.

Bright sunshine shows a decrease in most parts of Scotland and in the north of Ireland, but in all other districts it has been more prevalent than it was last week. The percentage of the possible amount of duration ranged from 22 in "Scotland, N." and "Ireland, N.", and 24 in "Scotland, W.", to 48 in the "Channel Islands", 49 in "England, S.", and 55 in "England, E."

Barometer and Wind.—During the early part of the period the barometer in our Islands was comperatively steady, and the winds light from the Southward. As the week progressed, however, depressions appeared over the Kingdom from the Atlantic, and the wind shifted to South-West or West and increased in force. On the 3rd the gradients for South-Westerly winds were very steep for the time of year on our more southern coasts and over the Channel, and a fresh squally gale was experienced in those regions.

* This value has been altered owing to the receipt of further information.
† The corresponding value in last week's Report should read "−3·2."

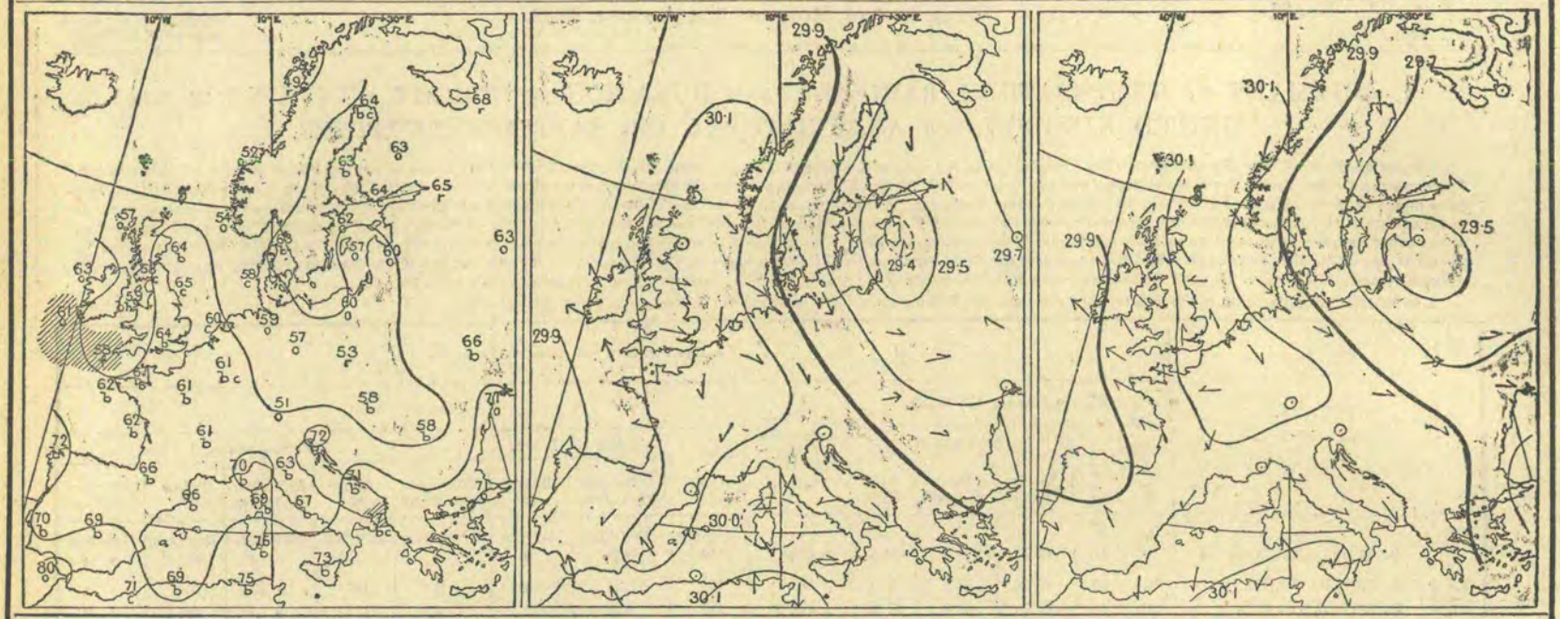
59668. 350.—8/89. Wt. 36. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 30th July.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine over the greater part of Western Europe but dull in the extreme west and north of our Islands, and foggy at the mouth of the English and Bristol Channels. Dull and unsettled over the northern and eastern parts of the Continent, with rain at several of the German and Austrian stations as well as at Bodö. Rain falling later in Sweden and Russia and also in the south-west of Ireland.

Temperature highest, 70° to 80°, over Eastern Europe, the Mediterranean, and the coasts of the Iberian peninsula; lowest, 55° or less, on the coasts of Norway. Subsequently rising to 80° or a little above over Central England, and to 90° and upwards over Algeria, Central Spain, and the south-west of France. Highest readings of all 99° at Madrid and Laghouat, 95° at Biskra, and 93° at Biarritz.

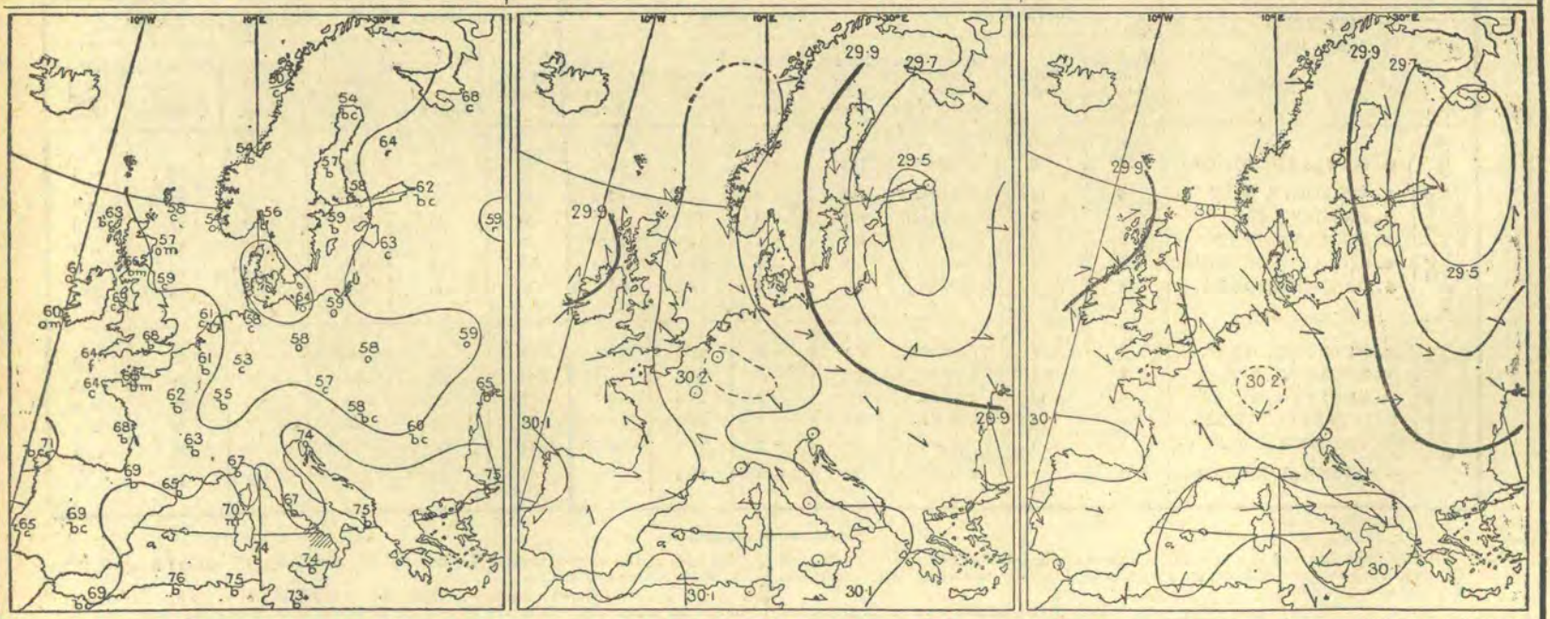
Wind South-Easterly to Easterly on the west coast of our Islands and France; fresh in force in the south-west of Ireland and at the mouth of the English Channel. Variable over Russia, Southern Europe, and the eastern parts of Great Britain and France. Strong from the Northward over the Baltic, and from the North-Westward over North Germany and the eastern shores of the North Sea. South-Easterly breezes subsequently extending to all parts of the United Kingdom, and blowing strongly in the south of Ireland.

Barometer highest, 30·1 ins. and upwards, in a large area extending northwards from the east of Spain across France, Great Britain, and the North Sea to the west of Norway. Lowest, 29·5 ins. and less, in a depression lying over the Baltic Provinces; 30·0 ins. and less, on the Atlantic coasts of our Islands and Spain. Large shallow disturbance appearing later over the Black Sea. Steady fall of barometer also taking place in the west of our Islands.

Wednesday, 31st July.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine generally, but dull in the west of Ireland as well as at some of the Russian stations, with rain at Kuopio and Moscow. Rain falling later in the west of Ireland and also at Caithness, but weather remaining fine elsewhere.

Temperature highest, 70° and upwards, over the Mediterranean, the Adriatic, and Eastern Europe; lowest, 55° and less, over Lapland and the west of Norway. Subsequently rising to 80°, or a little above, over the central parts of Great Britain and France, and to 90° or upwards over Algeria and Central Spain, the highest readings of all being 102° at Laghouat, 99° at Madrid and Biskra, and 95° at Aumale.

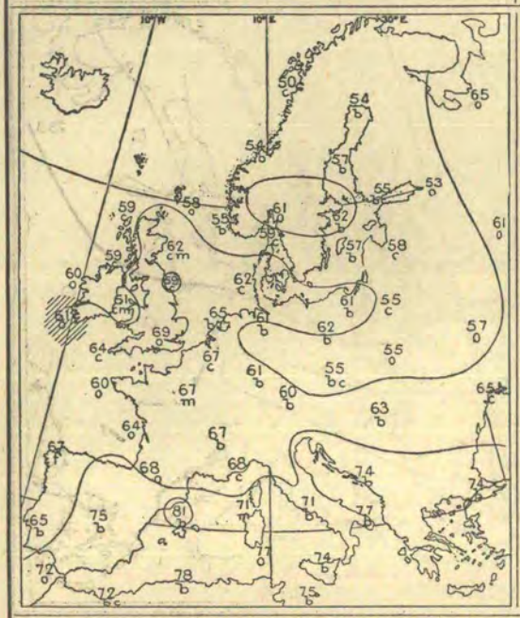
Wind light to moderate from the Southward (South-East to South-West) over our Islands and the west of France. Moderate from North-West and North on the eastern shores of the North Sea, and strong from the same quarter over Finland, Sweden, and North Germany, with gales at Stockholm and Breslau. Light from the Westward over Central and Southern Russia; variable over Southern Europe and the Mediterranean. Wind subsiding later over Sweden and North Germany.

Barometer highest, 30·2 ins. and upwards, over Western Germany, but high, 30·1 ins. and upwards, in a large area extending northwards from the Mediterranean, across France, Germany, the Netherlands, and the North Sea to the west of Norway. Lowest, 29·5 ins. and less, in a depression lying over the Baltic Provinces, but low, 29·9 ins. and less, in another disturbance lying to the westward of our Islands. Slight fall taking place later in most parts of Western Europe and large high pressure system partially breaking up.

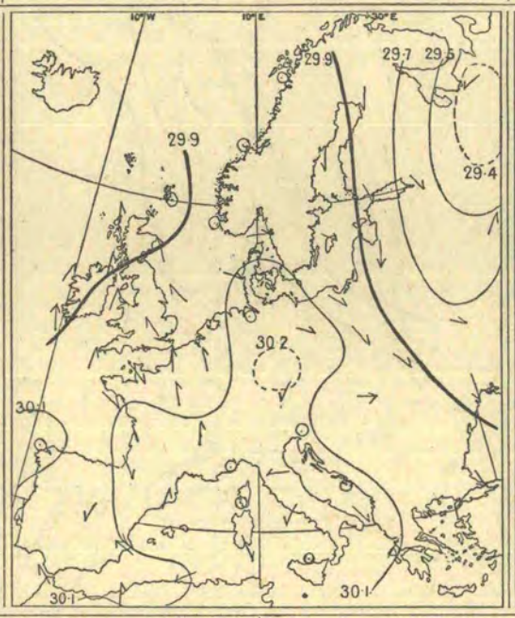
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 1st August.

Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**

Weather fine generally, but dull at some of the French and Russian stations, as well as in the west of Ireland. Thunderstorms occurring later in isolated parts of our Islands, France, and Germany, with heavy falls of rain in some localities.

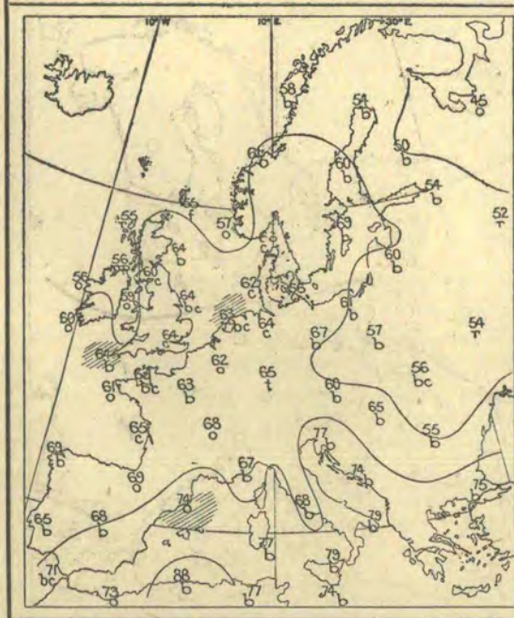
Temperature highest, 75° and upwards, at several of the Mediterranean stations; lowest, 55° or less, over Lapland, Finland, and the west of Norway. Subsequently rising to between 80° and 85° over the south-east of England, as well as in many parts of France and Southern Europe, and to 90° or upwards in Algeria and Central Spain, the highest readings of all being 102° at Laghouat, 101° at Madrid, and 100° at Biskra.

Wind Southerly (South-Easterly to South-Westerly) over the greater part of Western Europe, but Northerly or North-Westerly over Finland, Sweden, the Baltic, Western Russia, and Eastern Germany, Westerly or South-Westerly over Central Russia. Light and variable at the Mediterranean stations. Moderate North-Westerly breezes setting in later over the west of France, and light Westerly breezes in the extreme south of England.

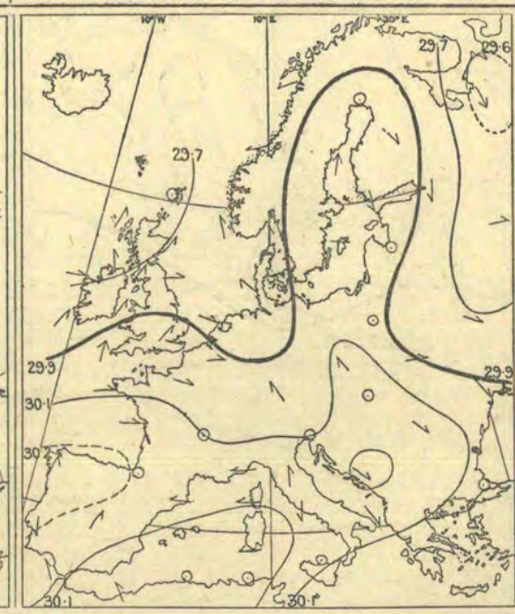
Barometer highest, 30·2 ins. and upwards, over South Germany; high, 30·1 ins. and upwards, in a large area extending from the Tunisian coasts across Italy, Switzerland, and the east and south of France to North Germany and the south of Denmark. Lowest, 29·4 ins. and less, in a depression lying over the north of Russia, but another disturbance, with readings below 29·8 ins., lying to the north-westward of our Islands, and shallow secondary system reported over the eastern part of the Channel. All three disturbances subsequently moving slowly north-eastwards.

Friday, 2nd August.

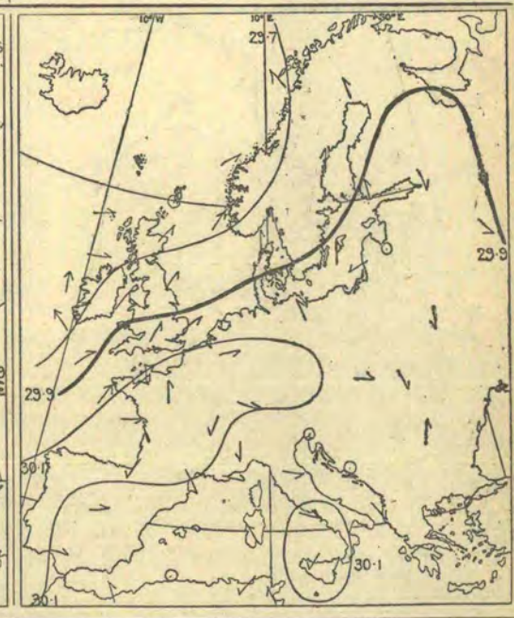
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fair or fine in most localities, but rainy over Central Russia, and showery in the extreme north-west of our Islands. Fog reported at Sumburgh Head. Thunderstorms occurring later over the Central parts of France and Germany, and heavy rain falling at night in Ireland, the largest amounts measured next morning being 1·1 ins. at Donaghadee and 0·7 ins. at Valencia.

Temperature highest, 80° and upwards, at some of the Algerian stations; 75° and upwards over the Mediterranean. Lowest, 50° or less, in the extreme north of Russia. Daily maxima over the south-east of England about 10° lower than on previous day, but thermometer rising above 80° in several parts of Germany and Southern Europe, and exceeding 90° in Algeria and Central Spain. Highest readings of all, 104° at Laghouat, 100° at Aumale and Biskra, and 96° at Madrid.

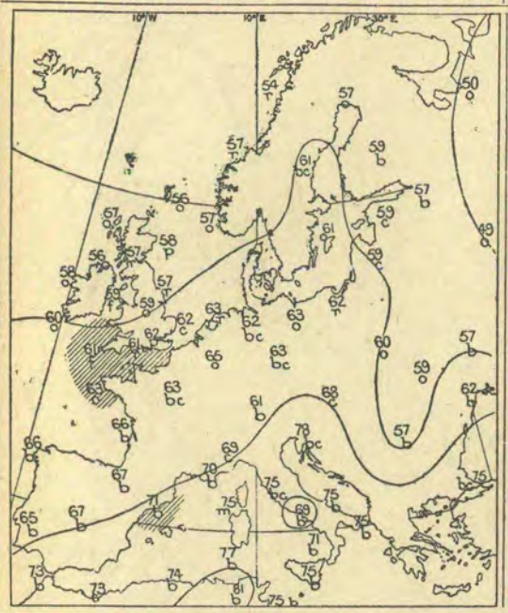
Wind moderate from the South-Westward in our Islands and from the South-Eastward on the eastern shores of the North Sea. Northerly or North-Westerly in the west and south of Russia; light and variable over the Mediterranean and Southern Europe. Subsequently backing to the Southward or South-Eastward in the extreme west of our Islands, and increasing to a strong breeze at Valencia.

Barometer highest, 30·2 ins. and upwards, over the western and northern parts of the Iberian peninsula; high, 30·1 ins. and upwards, over nearly the whole of Southern Europe. Lowest, 29·6 ins. and less, in a depression lying over the north of Russia; low, 29·7 ins. and less, in a large shallow area lying over Scotland and the adjacent parts of the Atlantic. Low pressure area over Scotland subsequently travelling away in a northerly direction, but deeper disturbance approaching Ireland from the south-westward.

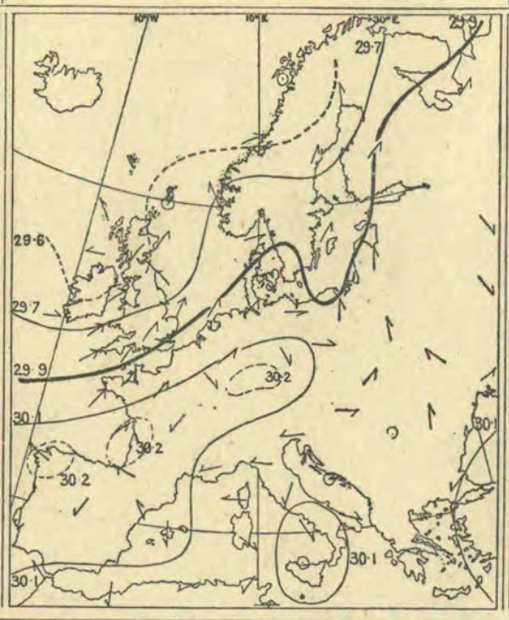
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 3rd August.

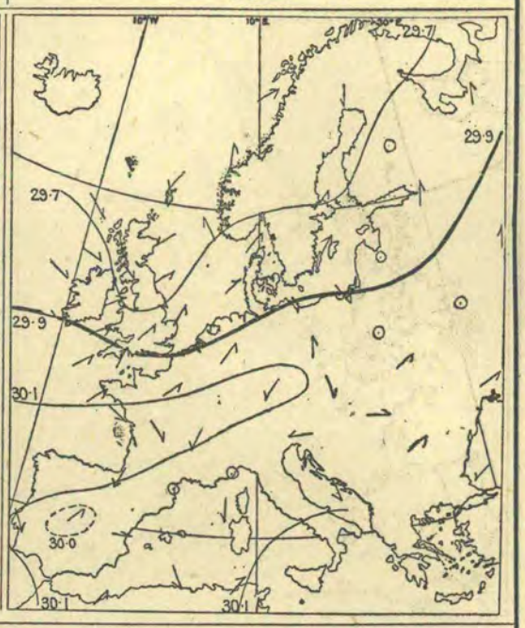
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine generally over South-Western, Southern, and South-Eastern Europe, the sky being cloudless in many places; cloudy and unsettled over the more northern countries, with rain at many stations; very unsettled, squally, and wet over England and Ireland, with driving fog and mist in the south-west and south. Rainfall general over England, the Channel, and Northern Europe during the day, but not heavy; improving over England later.

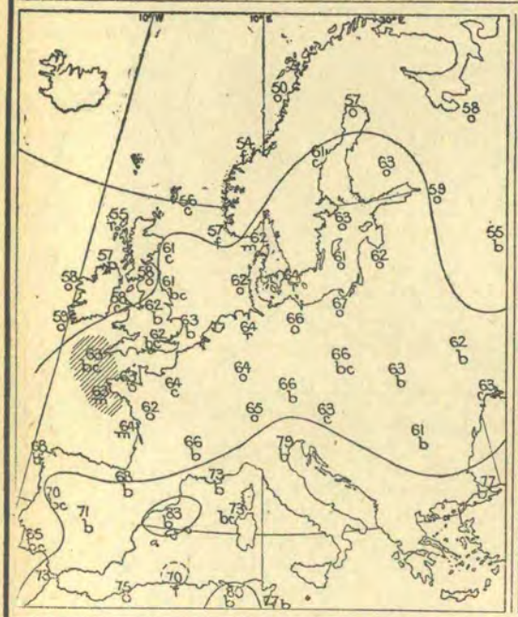
Temperature inclined to give way in the north-west generally—fallen decidedly at Moscow; remaining somewhat high over Algeria, the Mediterranean, and Southern Europe, where morning readings varied from 70° to 81°. Below 50° over Central Russia, and below 60° in many parts of the British Islands and North-Western Europe. Daily maxima exceeding 90° over Algeria and some parts of Austria (the Italian reports not in), but not exceeding 70° over the southern half of England.

Wind light and variable over South-Eastern, Southern, and South-Western Europe, chiefly South-Westerly to Southerly in the north-west and north, but variable in Scotland. Strong to a gale in force over Ireland, England, the Channel, and north of France, moderate to the eastward of the North Sea. Gale freshening in Channel during day, but lulling still later and veering westwards.

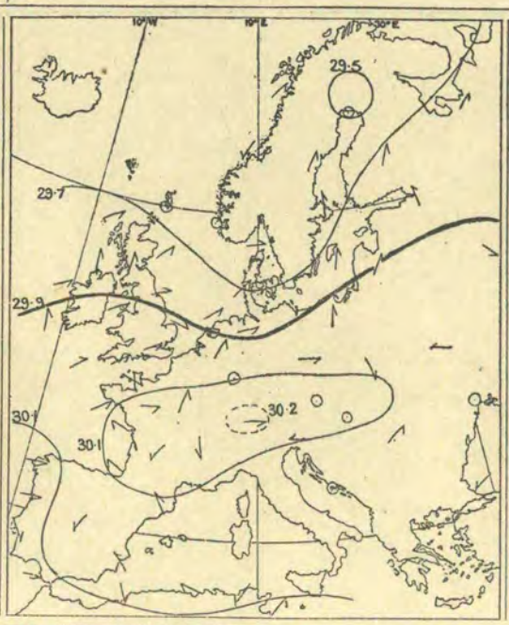
Barometer highest, 30·0 ins. to 30·2 ins., over South-Western and Central Europe, 29·9 ins. to 30·0 ins. over Russia and Poland; lowest, 29·5 ins. off the north-west coast of Scandinavia, and varying from 29·5 ins. to 29·6 ins. in a complex depression, which had advanced over the north-western half of our Islands from the Atlantic during the previous night. Latter system moving north-eastwards during day, and beginning to fill up.

Sunday, 4th August.

Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**

Weather fine and bright over South-Western, Southern, and South-Eastern Europe, and for a time over many parts of the British Islands and north of France; cloudy, changeable, and very showery over the Baltic, Germany, and the eastern shores of the North Sea. Becoming very unsettled and showery again in the British Islands and north-west of France later; thunderstorms very prevalent over the southern parts of France, Germany, and Hungary.

Temperature continuing high in the southern districts, but still inclined to give way unsteadily in the north and north-west. Readings varying from 70° to 80° on the Mediterranean coasts, but ranging from 50° to 60° over Ireland, Scotland, and Norway. Daily maxima exceeding 70° over England and the south of Scotland, exceeding 80° at Paris and in the south of France, 85° in Italy and the south of Austria, and varying from 95° to 104° over Algeria.

Wind still light and variable, except over the northern and north-western countries; there moderate to fresh, mainly from between South and West. Increasing from the Westward at some Baltic stations later, and backing decidedly to the Southward in Ireland, with a renewed tendency to increase in strength; becoming variable from the North-Westward over Central France.

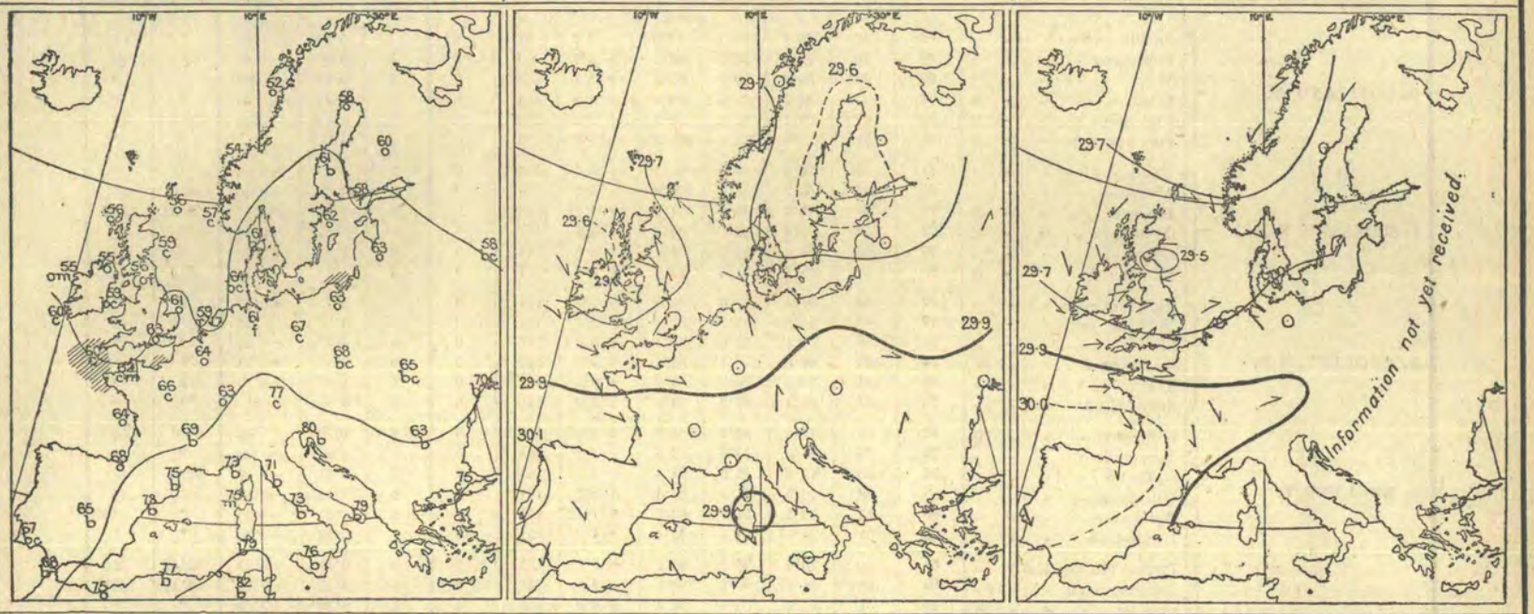
Barometer continuing highest (30·0 ins. to 30·15 ins.) over South-Western, Southern, and South-Eastern Europe, lowest in the far north, the gradients being slight. Risen over the British Islands, but beginning to fall again during the day over the whole of the United Kingdom, France, and the Mediterranean.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 5th August.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine over the south-eastern and extreme southern parts of the Continent, cloudy and unsettled in the north-west and north, and showery at very many stations. Heavy rain in Scotland later, and also in several parts of North Germany; heavy showers in several parts of England; thunderstorms very prevalent in these Islands as well as in France and Germany.

Temperature showing some further decrease, but still above 70° in the far south at the time of morning observation; exceeding 80° in some parts of Algeria. Recovering a little over Russia, but below 60° over the greater part of the British Islands. Daily maxima slightly above 70° over England, and exceeding 80° in the south of France and at Berlin.*

Wind very light and variable over Spain, France, Germany, and Southern Europe. Two cyclonic circulations of light to moderate winds found over Northern Europe and the British Islands. Westerly wind over England and the Channel increasing in force to a fresh or strong breeze later, but not much change elsewhere.*

Barometer fallen considerably in almost all districts; still varying from 30·0 ins. to 30·1 ins. over the Spanish Peninsula, and exceeding 30·0 ins. over South-Eastern Europe, but below 29·6 ins. in a large shallow depression over the Baltic, and ranging from 29·5 ins. to 29·6 ins. in another lying over the northern half of the British Islands. Latter depression moving eastwards.*

Information from Eastern and South-Eastern Europe and from Algeria not received at time of going to press.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟩⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

At the commencement of this period a large but somewhat narrow area of high pressure stretched from south to north, from Spain and the Western Mediterranean across France, the British Isles, and North Sea. Within this area readings ranged from 30·0 ins. to 30·1 ins. and more, and while its western side extended as far as to the Irish Atlantic Coast, the readings on its eastern side decreased steadily to 29·5 ins. and less in a well-marked depression lying over the Baltic Provinces. The Russian depression soon travelled away to the north-eastward, while the high-pressure area moved eastwards across the North Sea to the Baltic and Central Europe. In its rear a number of disturbances came over our Islands and North-Western Europe from the Atlantic, bringing with them strong Southerly to Westerly winds, squally unsettled weather, and a good deal of rain. The deepest disturbance reached the northern half of our Islands on the 3rd, and its South-Westerly gales, mists, and rains were sufficiently serious to cause the postponement of the Naval Inspection, arranged to take place on that day. Over Southern Europe and the Mediterranean the weather has been continuously fine and warm.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.)								Rainfall.			Bright Sunshine.	
		Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
July 15th, 1889	York	—	—	—	—	—	—	—	—	—	—	—	37·6	33
„ 22nd „	Scarborough	—	—	—	—	—	—	—	—	—	—	—	21·8	19
„ 22nd „	York	—	—	—	—	—	—	—	—	—	—	—	18·2	16
„ 29th „	York	—	—	—	—	—	—	—	—	—	—	—	19·8	18

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	62	48	60·1	52·1	55·9	+ 2·2	97	0	4	0·22	−0·35	*	*
	Stornoway	69	50	63·6	52·1	57·5	+ 2·8	109	0	5	0·31	−0·43	29·5	26
	Wick	69	50	65·6	52·7	58·8	+ 3·7	118	0	5	0·86	+0·34	*	*
	Lairg ℌ	76	47	69·1	49·0	58·4	+ 3·4	115	0	4	0·61	−0·05	*	*
	Glencarron ℌ	79	49	66·3	51·5	58·5	+ 3·6	116	0	5	0·94†	−0·48	18·9	17
	Fort Augustus ℌ	78	51	68·1	?53·5	?60·4	+?2·9	?129	0	4	0·84†	?	*	*
1. SCOTLAND, E.	Nairn	81	50	70·8	53·4	61·3	+ 3·7	135	0	3	0·80	+0·20	*	*
	Aberdeen	72	52	65·7	54·7	59·9	+ 2·8	125	0	3	0·28	−0·40	34·0	31
	Braemar ℌ	74	46	65·6	49·6	57·1	+ 2·5	106	0	5	1·55	+0·77	39·0‡	35‡
	Ochtertyre ℌ	79	50	70·4	52·3	30·8	+ 3·1	132	0	4	1·20	+0·42	*	*
	Leith	75	50	68·4	54·3	60·9	+ 2·5	132	0	4	1·22	+0·62	*	*
	Marchmont ℌ	78	47	68·7	51·4	59·5	+ 3·0	123	0	4	1·74	+0·95	43·0	39
2. ENGLAND, N.E.	Alnwick Castle	72	49	67·3	53·3	59·9	+ 2·7	125	0	4	0·75	+0·07	*	*
	Durham	77	49	71·6	53·7	62·1	+ 4·1	141	0	4	0·51	−0·12	43·2	40
	Shields	71	53	69·1	55·0	61·6	+ 3·4	137	0	4	0·37	−0·25	*	*
	Scarborough ℳ	73	54	69·9	55·1	62·1	+ 2·7	141	0	3	0·82	+0·22	? ‡	?‡
	York	80	51	72·9	54·3	63·0	+ 2·1	147	0	4	1·07	+0·50	?	?
	Spurn Head	72	57	67·1	57·9	62·2	+ 2·3	141	0	3	0·16	?	*	*
3. ENGLAND, E.	Hillington ℳ	81	54	74·8	55·9	64·8	+ 4·4	160	0	4	1·76	+1·16	61·0	56
	Yarmouth	73	56	67·6	57·9	62·5	+ 1·3	144	0	3	0·35	−0·20	*	*
	Geldeston	76	49	72·0	55·5	63·3	+ 2·1	149	0	3	0·41	−0·07	56·9	54
	Cambridge	83	52	76·0	54·9	64·8	+ 2·2	160	0	5	0·34	−0·18	58·6	55
	Rothamsted	80	51	73·3	54·3	63·2	+ 1·1	148	0	4	0·40	−0·20	*	*
	Ingatestone	82	51	73·5	55·1	63·8	+ 1·0	153	0	4	0·43	−0·09	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	81	48	75·4	53·3	63·7	+ 2·5	152	0	3	0·40	−0·20	45·6‡	42‡
	Loughborough	82	54	75·1	56·1	65·0	+ 3·1	161	0	3	0·39	−0·16	46·1‡	43‡
	Cheadle ℳ	76	51	69·6	53·2	60·9	+ 0·9	132	0	5	0·80	+0·04	*	*
	Churchstoke ℳ	78	49	71·4	53·8	62·0	+ 2·0	140	0	5	0·89	+0·31	52·2	48
	Hereford ℳ	80	50	74·1	53·7	63·2	+ 1·8	148	0	4	0·39	−0·15	*	*
	Cirencester	77	49	71·6	53·1	61·8	+ 0·6	139	0	4	1·15	+0·43	52·4	49
	Oxford	80	54	73·4	56·0	64·1	+ 2·7	155	0	4	0·37	−0·18	54·2	51
5. ENGLAND, S.	London	85	55	75·7	57·0	65·8	+ 2·5	167	0	4	0·61	+0·11	42·2‡	40‡
	Strathfield Turgiss ℳ	80	50	73·9	54·1	63·4	+ 2·0	150	0	4	0·43	−0·09	*	*
	Dungeness	73	55	70·0	58·6	64·0	+ 2·3	154	0	4	0·23	−0·20	*	*
	Hastings (St. Leonard's)	72	54	68·3	58·4	62·8	+ 1·7	146	0	4	0·61	+0·13	64·8	61
	Southampton	80	52	72·6	57·5	64·6	+ 3·0	158	0	4	0·57	−0·01	54·2	51
	Hurst Castle	75	55	69·9	59·1	64·2	+ 2·9	155	0	4	0·38	−0·12	*	*
	Stowell ℳ	74	50	68·7	55·0	61·4	+ 0·9	136	0	5	0·49	?	46·6‡	44‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	75	52	67·3	54·3	60·4	+ 3·4	129	0	4	0·63†	−0·50	*	*
	Glasgow	75	53	66·7	55·2	60·6	+ 3·1	130	0	3	0·69	−0·15	26·1	24
	Ardrossan	72	53	65·0	55·7	60·1	+ 2·4	127	0	3	0·88	+0·09	*	*
	Glenlee ℌ	73	49	66·9	51·7	58·8	+ 1·0	118	0	5	1·27	+0·30	*	*
	Douglas (Isle of Man)	70	45	65·7	51·9	58·4	+ 0·7	115	0	4	0·88	+0·13	26·0	24
7. ENGLAND, N.W.	Newton Reigny (Penrith)	77	48	69·6	52·3	60·4	+ 2·1	129	0	5	1·08	+0·38	31·9	29
	Barrow-in-Furness	73	53	65·0	55·7	60·1	+ 0·2	127	0	4	1·72	+0·98	*	*
	Stonyhurst	75	46	68·8	53·6	60·7	+ 1·5	131	0	5	1·64	+0·61	48·3	45
	Blackpool ℳ	84	46	73·4	54·0	63·1	+ 2·8	148	0	5	0·82	+0·12	45·1	42
	Manchester	77	51	70·2	54·9	62·1	+ 1·7	141	0	5	2·03	+1·20	*	*
	Liverpool Obsy (Bidston)	78	49	70·4	55·9	62·7	+ 2·0	145	0	5	0·75	+0·11	*	*
	Llandudno ℳ	79	53	69·2	56·4	62·3	+ 1·6	142	0	3	0·73	+0·13	41·3	38
	Holyhead	76	52	66·6	55·4	60·7	+ 1·1	131	0	3	0·93	+0·34	*	*
8. ENGLAND, S.W.	Llandovery	80	49	72·0	55·3	63·2	+ 2·8	148	0	5	0·99	+0·04	*	*
	Pembroke	67	50	63·0	55·7	59·1	− 0·6	120	0	4	0·97	+0·36	39·9	38
	Arlington (N. Devon)	73	50	65·9	54·3	59·8	− 0·6	125	0	5	1·49	+0·26	*	*
	Cullompton ℳ	75	48	70·0	54·2	61·6	+ 0·1	137	0	5	0·90	+0·29	35·8	34
	Falmouth	68	55	65·6	56·2	60·3	− 0·9	128	0	5	1·10	+0·34	34·2	33
	Plymouth	77	55	70·4	58·4	64·0	+ 2·3	154	0	5	0·80	+0·18	37·7	36
	Prawle Point	67	54	63·0	55·6	59·1	− 0·7	120	0	5	0·81	?	*	*
9. IRELAND, N.	Malin Head	71	53	63·7	55·3	59·3	+ 2·2	121	0	5	1·62	?	*	*
	Londonderry	78	50	67·9	53·2	60·1	+ 1·6	127	0	5	1·34	+0·55	*	*
	Mullaghmore	73	51	65·6	54·9	59·9	+ 0·5	125	0	5	0·91	+0·10	*	*
	Belmullet	75	54	63·4	56·3	59·6	+ 1·9	123	0	6	1·43	?	*	*
	Markree Castle	74	44	65·5	50·8	57·7	− 1·8	110	0	5	1·22	+0·43	26·9	25
	Brookeborough	73	46	65·2	50·9	57·6	− 2·1	109	0	4	1·05	?	*	*
	Armagh	73	48	66·4	51·8	58·6	− 1·1	116	0	4	1·64	+0·99	20·8	19
	Donaghadee	70	53	65·9	56·3	60·8	+ 2·6	132	0	5	1·98	+1·33	*	*
	Edgeworthstown	72	46	66·4	51·1	58·3	− 1·4	114	0	5	1·07	+0·27	*	*
10. IRELAND, S.	Dublin	72	53	68·7	55·7	61·8	+ 2·0	139	0	5	0·54	−0·06	40·5	38
	Parsonstown	73	50	67·7	53·0	59·9	+ 0·6	125	0	5	0·35	−0·39	37·9	35
	Kilkenny	72	48	66·6	51·9	58·8	− 1·2	118	0	4	1·25	+0·65	*	*
	Waterford	70	46	68·0	52·9	60·0	− 0·4	126	0	3	0·94	+0·24	*	*
	Roche's Point	66	51	64·4	55·3	59·6	− 0·9	123	0	3	0·73	−0·02	*	*
	Valencia	66	53	63·7	55·9	59·6	+ 0·4	123	0	7	1·34	+0·38	35·6	34
	Killarney	68	52	64·6	54·9	59·2	− 0·3	120	0	4	1·01	?	*	*
	Foynes	69	51	64·9	54·7	59·3	+ 0·2	121	0	6	0·76	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	68	56	66·0	57·1	61·3	+ 0·4	135	0	4	0·52	−0·01	*	*
	Jersey	80	58	70·9	60·1	65·2	+ 3·2	162	0	2	0·91	+0·41	49·5	48

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ℌ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

(OFFICIAL COPY.)

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 32.] *Third Series.* WEEK ENDING MONDAY, 12TH AUGUST, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 192.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	66	39	60·3	49·6	54·6	1 below.	88	0	0	0	1347	+213	514	+ 4
	1. SCOTLAND, EAST	69	44	61·8	0·0	55·5	1 below.	95	−13	0	0	1573	+ 63	548	+ 5
	2. ENGLAND, N.E.	70	44	63·0	51·9	57·1	1 below.	106	−10	0	0	1651	+ 49	489	+ 7
	3. ENGLAND, EAST	72	45	66·0	50·5	57·8	4 below.	111	−17	0	0	1893	+ 19	619	+112
	4. MIDLAND COUNTIES	72	39	64·2	49·5	56·4	4 below.	101	−23	0	0	1896	+ 14	564	+ 60
	5. ENGLAND, SOUTH	72	45	65·7	51·6	58·2	3 below.	113	−23	0	0	2077	+ 61	448	+ 75
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	68	42	62·9	50·3	56·2	1 below.	99	−10	0	0	1680	+ 92	375	− 23
	7. ENGLAND, N.W.	68	44	62·5	52·3	57·1	3 below.	106	−12	0	0	1756	+ 75	382	− 1
	8. ENGLAND, S.W.	72	42	64·0	51·2	57·2	3 below.	106	−20	0	0	1904	− 13	321	+ 88
	9. IRELAND, NORTH	67	41	61·6	51·1	56·1	3 below.	99	−12	0	0	1706	+ 43	297	− 53
	10. IRELAND, SOUTH	69	44	63·8	51·3	57·2	2 below.	106	−13	0	0	1906	+ 11	225	− 14
	— CHANNEL ISLANDS	68	50	64·5	55·5	59·7	2 below.	124	−11	0	0	2143	+ 98	77	− 16

Rainfall.

	DISTRICTS. (See p. 192.)	For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.
			10ths of In.				Ins.	Ins.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	5	7	3 less.	148	+12	22·1	−1·8
	1. SCOTLAND, EAST	6	15	7 more.	119	+ 4	16·0	−2·4
	2. ENGLAND, N.E.	6	15	9 more.	110	− 1	14·5	−1·1
	3. ENGLAND, EAST	6	12	7 more.	117	+ 4	16·1	+1·5
	4. MIDLAND COUNTIES	5	10	3 more.	109	− 3	18·4	+1·6
	5. ENGLAND, SOUTH	5	7	2 more.	114	+ 8	14·9	−0·6
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	4	8	0 (average).	123	− 2	23·0	−3·4
	7. ENGLAND, N.W.	5	10	3 more.	114	− 2	17·7	−1·5
	8. ENGLAND, S.W.	5	8	0 (average).	114	− 8	20·4	−3·7
	9. IRELAND, NORTH	5	13	5 more.	137	− 3	21·5	+0·8
	10. IRELAND, SOUTH	5	12	4 more.	125	− 6	20·7	−2·3
	— CHANNEL ISLANDS	4	4	1 less.	120	−10	15·9	−2·0

Bright Sunshine.

	DISTRICTS. (See p. 192.)	For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	21	20	721	−147	24	− 5
	1. SCOTLAND, EAST	15	14	905	− 97	30	− 3
	2. ENGLAND, N.E.	14	13	837 *	− 88	28	− 3
	3. ENGLAND, EAST	38	36	916	−199	31	− 7
	4. MIDLAND COUNTIES	31	29	861	−123	29	− 4
	5. ENGLAND, SOUTH	42	40	895	−162	30	− 6
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	28	26	959 *	− 4	32	0
	7. ENGLAND, N.W.	21	20	933	− 32	31	− 1
	8. ENGLAND, S.W.	51	49	1062	− 68	36	− 2
	9. IRELAND, NORTH	24	23	815	− 85	28	− 2
	10. IRELAND, SOUTH	34	32	1011	− 5	34	0
	— CHANNEL ISLANDS	61	59	1181	−170	40	− 6

General Remarks.

Weather has been exceedingly cool, changeable, and unsettled. Thunderstorms have occurred in all but the extreme northern parts of the Kingdom, frequently in the east and north of England, and heavy local falls of rain have been experienced in nearly all districts.

Temperature has been everywhere below the mean, the excess ranging from 1° in Scotland and the north-east of England, to as much as 4° in "England, E." and the "Midland Counties." The daily maxima were as a rule below 70° in all districts, and frequently below 60° at our extreme northern and north-western stations. The highest readings were observed on the 7th or 8th, when the thermometer rose to between 65° and 69° in Ireland and Scotland, and to a little above 70° in many of the English districts. The lowest readings, which were registered at irregular times ranged from 39° in "Scotland, N." and the "Midland Counties" to 45° in "England, E." and "England, S.", and to 50° in the "Channel Islands".

Rainfall has been less than the mean in "Scotland, N." and the "Channel Islands", and about equal to it in "Scotland, W." and "England, S.W.", but more in all other districts. In the eastern parts of Great Britain, where thunder has been very prevalent, the excess has been considerable.

Bright sunshine has been more prevalent than it was last week in "England, S.W." and the "Channel Islands", but less so in all other districts. The percentage of the possible amount of duration has ranged from 13 in "England, N.E." to 40 in "England, S.", 49 in "England, S.W.", and 59 in the "Channel Islands".

Barometer and Wind.—During nearly the whole of the week pressure has been highest to the southward, and lowest to the northward of our Islands. Several depressions have travelled eastwards across the more northern parts of the Kingdom, so that while the winds over our southern districts have been usually from some Westerly point, those in the north have been variable and occasionally Easterly. On the 6th, when a rather deep depression passed across our Islands a slight gale from the South-Westward and Westward was experienced at some of the Channel stations.

* These values have been altered owing to the receipt of further information.

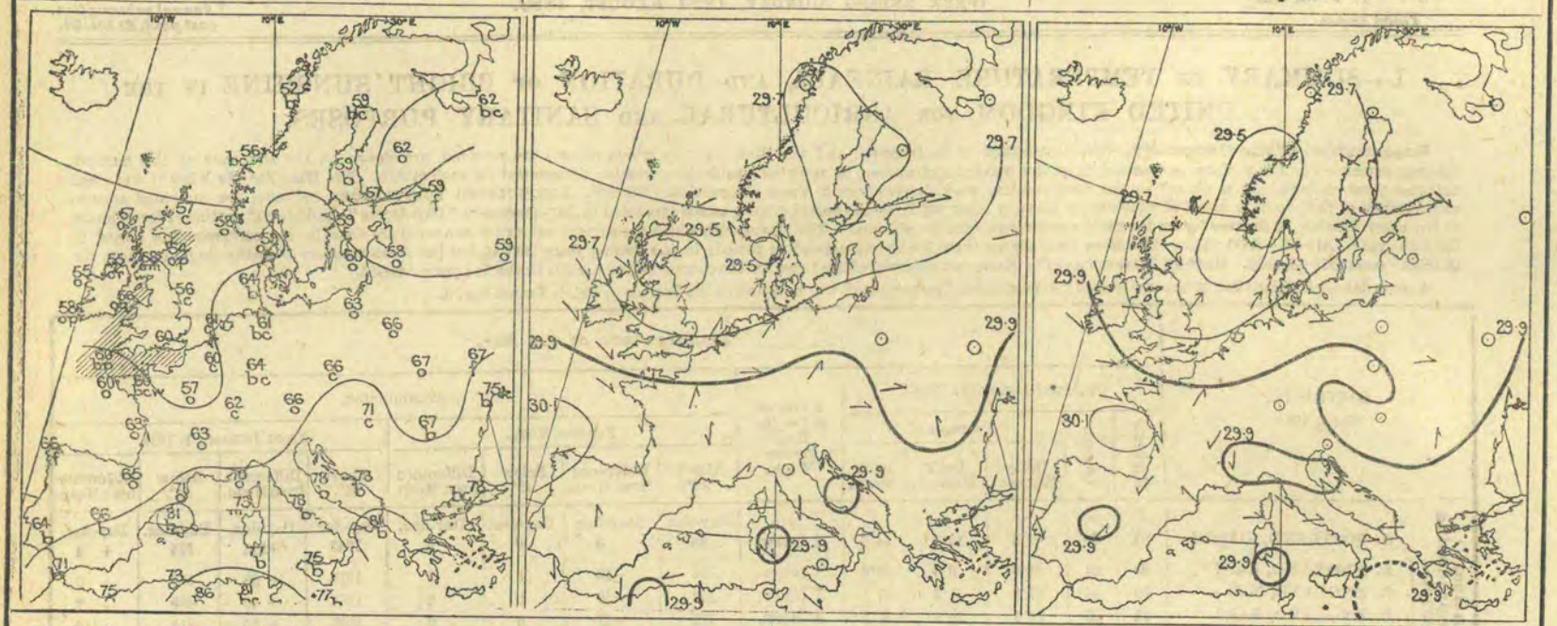
59749. 350.—8/89. Wt. 36. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 6th August.

Temperature and Weather. **8 a.m.**

Barometer and Wind. **8 a.m.** **6 p.m.**



Weather fine and bright over the Mediterranean, South-Western, Southern, and South-Eastern Europe, as well as over the northern parts of Scandinavia and the east of England, cloudy and unsettled elsewhere, with showers in some parts of the British Islands. Showers of rain falling over the United Kingdom later, except at the south-western stations, as well as in several parts of the Netherlands, Germany, the Baltic, and Northern Europe. Night fine and cool over the United Kingdom.

Temperature not changing much in the far south, but rather low in the north-west and north. Morning readings varying from 70° to 81° at the Mediterranean stations, and as high as 82° to 86° over Central Algeria, but below 60° over nearly the whole of the British Islands, Denmark, Scandinavia, and Central Russia. Daily maxima below 70° all over the United Kingdom, and below 60° at some of our north-western stations; but exceeding 100° over Algeria, 90° over some parts of Italy and Austria, and reaching 86° at Nice.

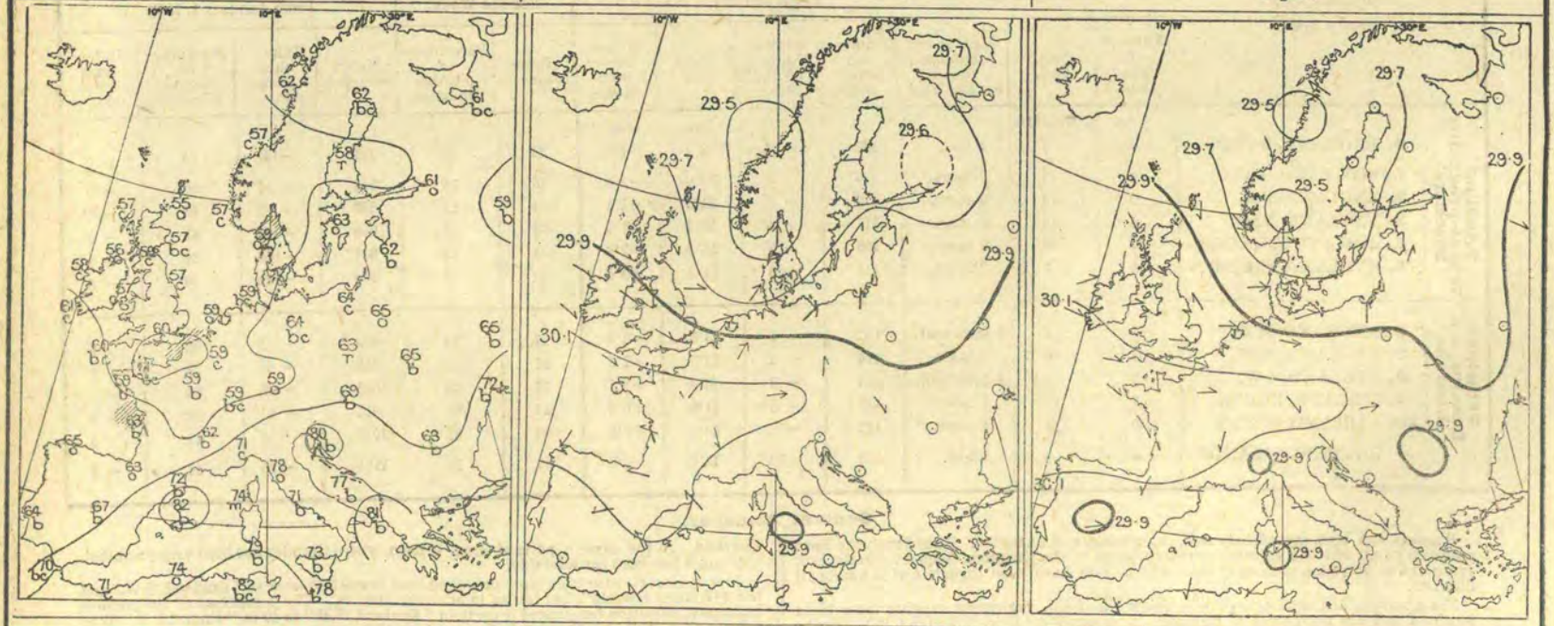
Wind continuing light over South-Western, Southern, and South-Eastern Europe, but circulating cyclonically over the British Islands and North Sea, and blowing strongly from West and North-West in the west and south of the United Kingdom; North-Easterly breezes prevalent over the northern parts of Scandinavia and in Scotland. Westerly wind becoming still stronger later.

Barometer exceeding 30·0 ins. over the Central and Western parts of France, as well as in the west and north of the Spanish Peninsula; lowest, 29·5 ins. and less, in a depression over the northern parts of our Islands, and in a secondary disturbance over the Skager Rack; readings comparatively uniform over Russia, Italy, and the Mediterranean. Scotch depression moving north-eastwards later, and barometer rising over the British Islands and France.

Wednesday, 7th August.

Temperature and Weather. **8 a.m.**

Barometer and Wind. **8 a.m.** **6 p.m.**



Weather dull, unsettled, and rainy, over Scandinavia and Denmark, cloudy and rather showery, but improving over the British Islands and their neighbourhood, fine over south-western, southern, and eastern Europe. Remaining unsettled and rainy over Scandinavia, the Baltic, and North Germany during the day, but showers in our Islands were slight and local; weather fine over France.

Temperature high in the extreme south, low for the time of year in the north and north-west; morning readings exceeding 80° over Algeria and at several Mediterranean stations, and exceeding 70° in the south of France also, but below 60° over the greater part of the British Islands and the northern parts of France and Germany, and as low as 52° at Le Mans (where fog prevailed), and 55° at Sumburgh Head. Daily maxima exceeding 100° over central Algeria, and exceeding 90° in some parts of Italy, but touching 70° in very few parts of our Islands.

Wind was light and variable over Southern Europe and the Mediterranean, Westerly and North-Westerly (moderate) over the British Islands, Westerly in France, South-Westerly over North Germany and Denmark, Easterly over Northern Europe. Subsequently falling light and backing over the British Isles, but becoming strong from North-West on the eastern shores of the North Sea.

Barometer highest, 30·00 ins. to about 30·15 ins., over France, the Bay of Biscay, and Spain, and exceeding 29·9 ins. over Central and South-Eastern Europe; lowest, 29·5 ins. and less, in a depression over Scandinavia, and 29·6 ins. and less in another over the eastern part of Finland. A third, very shallow disturbance over the Mediterranean. Barometer rising in our Islands during the day, and Scandinavian depression moving eastwards and becoming more complex.

II.—SUMMARY OF WEATHER OVER EUROPE.

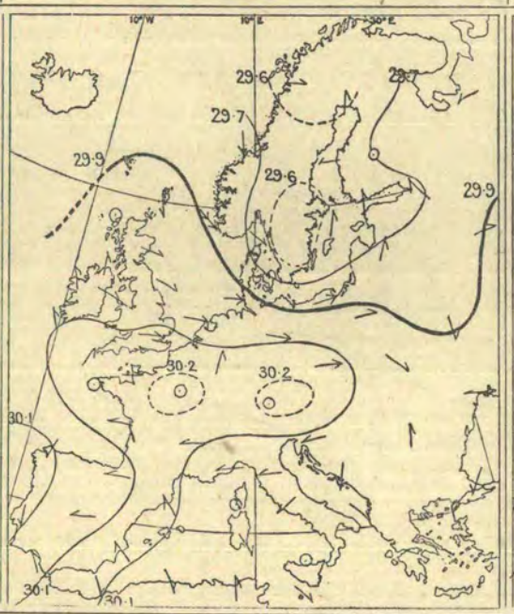
Thursday, 8th August.

Temperature and Weather.

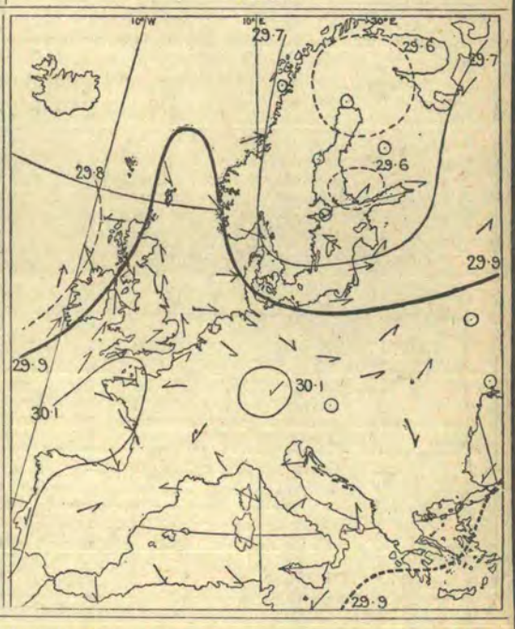
8 a.m.

Barometer and Wind.

8 a.m.



6 p.m.



Weather in morning fair as a whole, but dull and rainy again in the west of Ireland as well as over Northern Europe and at some of the Baltic stations; very fine over the south-western, southern, and south-eastern countries. Considerable rain at our western and north-western stations later, and in some parts of Northern Europe; slight fall at Algiers also, but fair or fine in most other places.

Temperature showing no great change; low (below 60°) over the United Kingdom, North Sea, and greater part of France; above 60° over Russia and Central Europe, ranging from 70° to 81° over the Mediterranean, and as high as 86° at La Calle and Aumale. Daily maxima as high as 113° at Biskra, and 106° at Laghouat, 91° at Malta, and 85° to 90° in several parts of Italy and Spain; below 70° in our Islands, except in some parts of the southern and central counties of England.

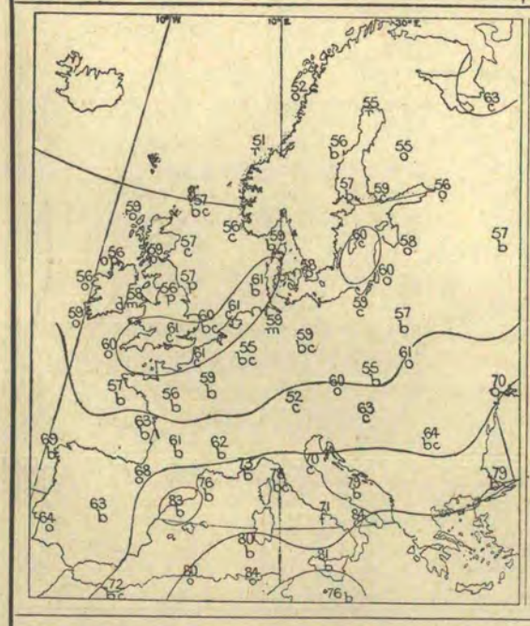
Wind variable over Southern, Central, and Eastern Europe, and very light over Great Britain. Cyclonic circulation of moderate winds prevailing over the Baltic and Northern Europe, and Southerly breezes setting in over Ireland. The latter wind freshening and spreading to all but our southern stations later; little change elsewhere, excepting the appearance of some cyclonic system over Central Spain.

Barometer highest, 30·0 ins. to 30·2 ins., over Germany, France, and the east of Spain; lowest, 29·6 ins. and less, over Sweden and Lapland, and less than 30·0 ins. off the north-western coasts of the British Islands. Depression approaching our north-western coasts later, and a local system advancing across Portugal to the neighbourhood of Madrid.

Friday, 9th August.

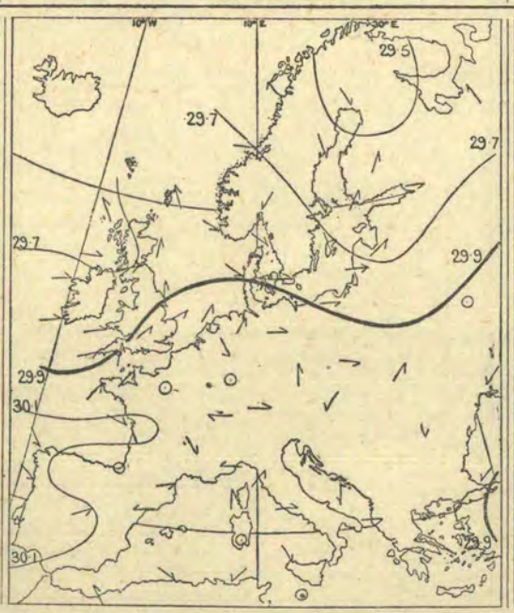
Temperature and Weather.

8 a.m.

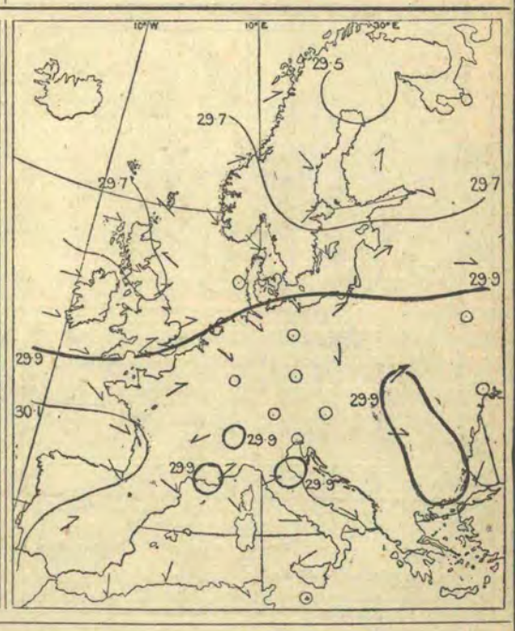


Barometer and Wind.

8 a.m.



6 p.m.



Weather continuing fine over South-Western, Southern, Central, and Eastern Europe, and improving over the Baltic; rainy in eastern parts of Lapland and the west of Norway; and very showery and unsettled over the British Islands. Rainfall general over the British Islands and their neighbourhood during the day, as well as in several parts of North Germany and Russia. Thunderstorms in Hungary and Austria.

Temperature even higher than of late (73° to 88°) over the Mediterranean coasts and Algeria, but low (below 60°) over the United Kingdom and all the northern half of Europe, as well as over some of the central districts; as low as 55° at Cracow and Prague, and 59° at Belfort. Daily maxima again as high as 113° at Biskra, and 108° at Laghouat, and exceeding 90° in many parts of Italy and Spain, but considerably below 70° in the British Islands, and very little above that value over Germany.

Wind light generally; very variable over Eastern, Central, and Southern Europe; South-Westerly in the north of Russia; North-Westerly over Scandinavia and Denmark; Southerly to Westerly over the British Islands and their immediate neighbourhood; veering to Northward over Portugal and the west of Spain. Becoming more Westerly over the United Kingdom later.

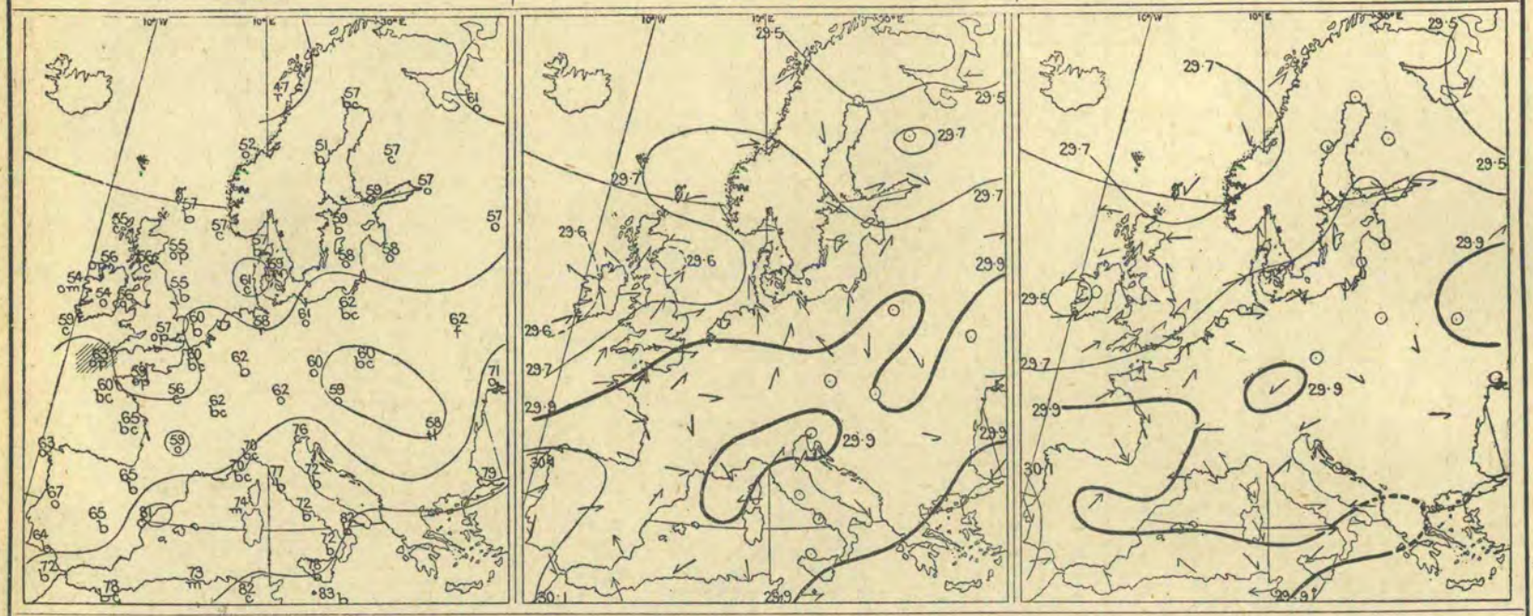
Barometer lower in almost all places than on the 8th; still highest over South-Western and Central Europe; lowest over the eastern parts of Lapland and in the west and north of the British Islands, but gradients not steep. Very little change later; British depression moving north-eastwards.

II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 10th August.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine over the greater part of Southern Europe, as well as in Sweden and the east of England. Cloudy or overcast elsewhere, with passing showers in the west and south of our Islands, rain at Bodö and Lemberg, and a thunderstorm at Hermanstadt. Heavy rain falling later in many parts of Western Europe, with thunderstorms at some of the English, French, and German stations. Largest amounts of rain measured, 1·2 inch at Aberdeen, 0·8 inch at Rochefort, 0·7 inch at Leith, and 0·6 inch at La Hague and Chassiron.

Temperature highest, 80° or a little above, in Algeria and the extreme south of Italy; lowest, 50° or less, in the north of Norway; low, 55° or less, in many parts of the United Kingdom. Daily maxima below 70° in all parts of our Islands, and below 60° on our extreme north and north-west coasts, but thermometer rising above 80° in many parts of Southern Europe, above 90° in the south of Italy, and above 100° in Central Algeria; highest readings of all being 115° at Biskra and 109° at Laghouat.

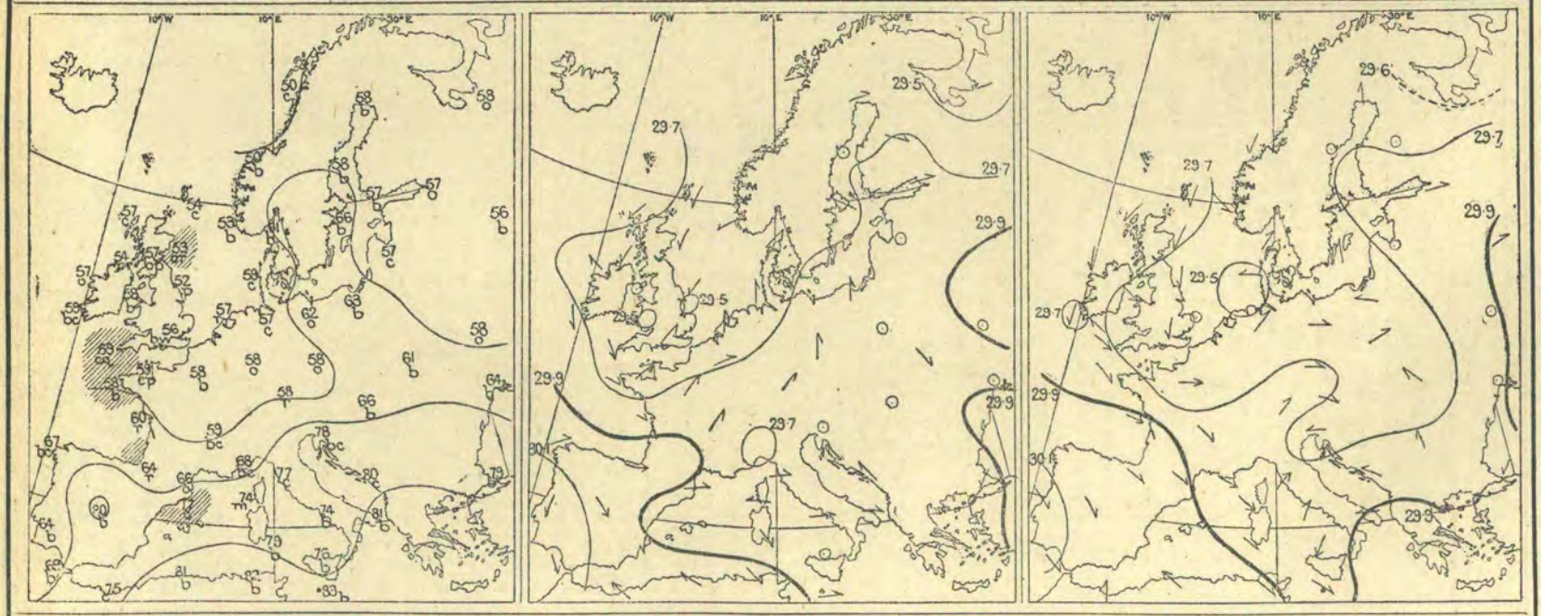
Wind moderate from the South-Westward over the southern parts of our Islands and the north of France, light from the Southward in Germany and Denmark, and light or moderate from the Eastward in Scotland and the north of Ireland; Westerly in Russia and the north of Scandinavia; variable over Southern Europe and the Mediterranean. Subsequently freshening from the South-Westward at some of the Channel stations.

Barometer highest, 30·1 ins. and upwards, over the western parts of the Iberian peninsula; high, 30·0 ins. and upwards, over the south of Russia. Lowest, 29·5 ins. and less, over Lapland and Northern Russia; low, 29·6 ins. and less, in a large depression lying over the west of Ireland, and also in a smaller disturbance lying near the mouth of the Firth of Forth. Depression over Ireland subsequently spreading eastwards over the United Kingdom, and barometer falling in all parts of Western Europe.

Sunday, 11th August.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine in nearly all the more southern countries, as well as in Scandinavia, but showery over the United Kingdom, and rainy in the south-west of France and some parts of Germany. Thunderstorms, with heavy rain, occurring later in Austria, Germany, and the east of England, the largest amounts reported being 1·2 ins. at Berlin, 1·0 in. at Wiesbaden, 0·9 in. at Spurn Head, and 0·8 in. at Trieste.

Temperature highest, 80° and upwards, over Algeria and the south of Italy; lowest, 55° or less over the west of Norway, the north-east of Great Britain, and the central parts of England and Ireland. Daily maxima below 70° in all parts of the United Kingdom, and below 60° at some of our extreme northern and north-western stations, but thermometer rising above 80° in many parts of Southern Europe, above 90° in the south of Italy, and above 100° in Central Algeria.

Wind moderate North-Easterly in Norway and Scotland, Northerly in Ireland, Westerly over the Channel, and France, Southerly on the eastern shores of the North Sea, and variable over the northern and central parts of England. North-Westerly in Spain, and Westerly in Russia, but variable over Central and Southern Europe and the Mediterranean. Subsequently shifting to the Northward in most parts of the United Kingdom.

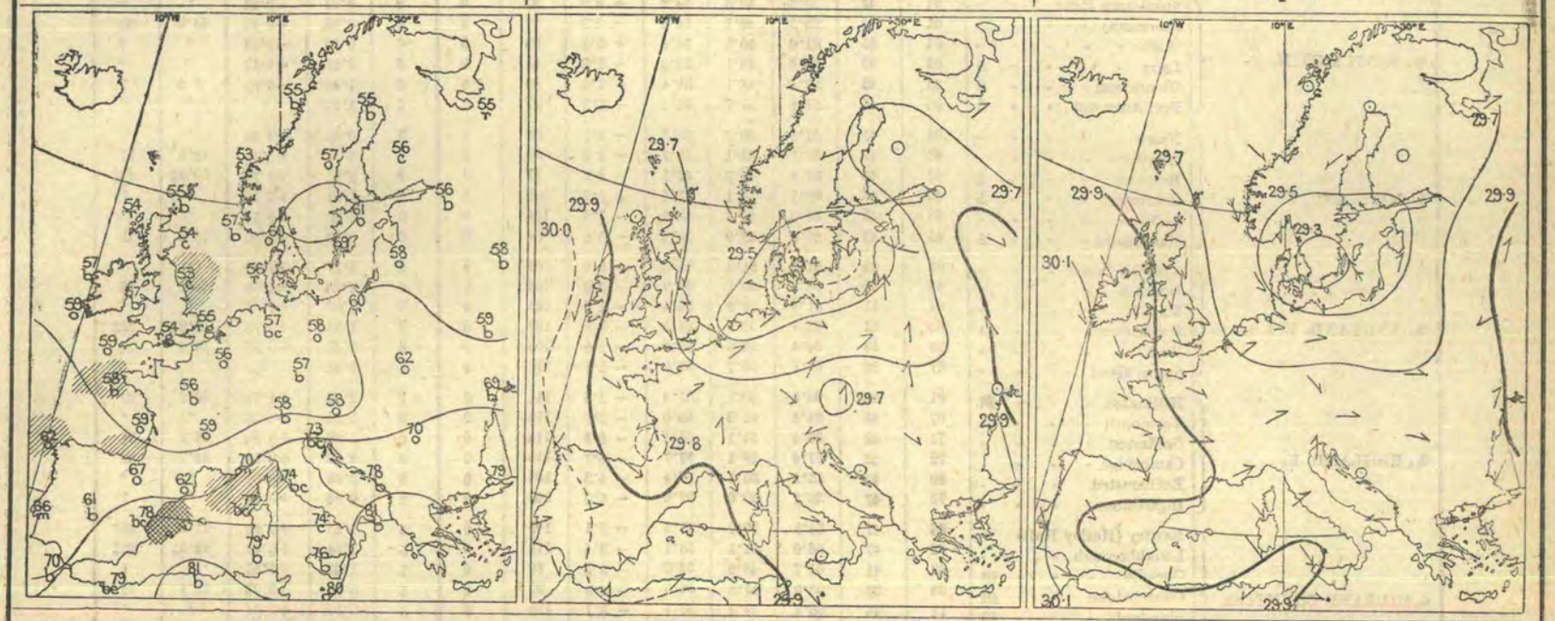
Barometer highest, 30·1 ins. and upwards, in an anticyclone lying over the south-western parts of the Iberian peninsula; somewhat high, 29·9 ins. and upwards, over the central and southern parts of Russia. Lowest, 29·5 ins. and less, in the neighbourhood of the White Sea, but low, 29·6 ins. and less, in a large and irregularly shaped area lying over the North Sea, England, and the east of Ireland. Large area of low pressure subsequently moving eastwards, but small shallow depression advancing to the south of Ireland from the north-westward.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 12th August.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine in the west of our Islands as well as over the greater part of Russia and Southern Europe. Cloudy or overcast elsewhere, with rain at several of the Baltic stations, and also at Stornoway and Limoges. Rain falling during day in most parts of Western and Central Europe, and thunderstorms occurring at some of the German stations. Very little rain falling in our Islands.

Temperature highest, 75° to 80°, over the Mediterranean, the Adriatic, and Eastern Europe; lowest, 55° or less, over the northern parts of Scandinavia and Russia, as well as in many parts of the United Kingdom. Daily maxima over our Islands mostly below 65°, but thermometer rising above 80° over Southern Europe, above 90° in the south of Italy, and above 100° over Central Algeria. Highest readings of all, 109° at Biskra and 95° at Cape Béarn and Oran.

Wind moderate from the Northward over our Islands, and from the Westward or South-Westward over the Netherlands, Germany, and the north of France; Easterly over Sweden, Denmark, and the Gulf of Finland. Light and variable over Eastern and Southern Europe, but chiefly Southerly in Algeria. Subsequently shifting to the North-Westward on the eastern shores of the North Sea, and increasing to a gale at Skudesnaes.

Barometer highest, 30·0 ins. and upwards, in a large area extending from Algeria and Spain to our extreme western coasts as well as in a smaller area lying over the south of Russia. Lowest, 29·4 ins. and less, in a large depression lying over the Baltic and the south of Sweden; low, 29·6 ins. and less, in an area lying over the White Sea. Depression over the Baltic subsequently growing deeper, but barometer rising slowly in most parts of Western Europe.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

Barometrical pressure has been for the most part highest in an anticyclone lying to the south-westward of our Islands, but somewhat high over the central and southern parts of Russia. During the early part of the week the two systems were united by a "col," which extended across France, Germany, and Austria; and the depressions which approached the north of our Islands consequently travelled in an almost due easterly direction. The most important disturbance was that of the 6th, which occasioned a slight South-Westerly to Westerly gale at some of the Channel stations. After the 9th, the "col" disappeared, and the depressions which continued to arrive from the Atlantic pursued a somewhat more southerly course. On the 11th a large disturbance passed across England and the North Sea to the Baltic, where it eventually grew much deeper. In the rear of this system the winds over Western Europe veered to the North-Westward or Northward, with some temporary improvement in the weather.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.)								Rainfall.			Bright Sunshine.	
		Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
August 5th, 1889	Scarborough	—	—	—	—	—	—	—	—	—	—	—	34·5	32
" "	York	—	—	—	—	—	—	—	—	—	—	—	37·6	35

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head S	61	47	59·6	50·6	54·8	+ 0·9	90	0	2	0·04	−0·61	*	*
	Stornoway	61	44	60·3	49·1	54·4	− 0·3	87	0	3	0·18	−0·61	34·9	32
	Wick	64	45	61·6	50·1	55·5	+ 0·4	95	0	6	0·29	−0·23	*	*
	Lairg S	63	39	59·8	48·1	53·6	− 1·3	81	0	6	0·81	+0·17	*	*
	Glencarron S	64	42	59·4	48·1	53·4	− 1·3	80	0	6	1·44†	−0·01	7·3	7
	Fort Augustus S	66	46	61·1	51·7	56·1	− 1·2	99	0	6	1·45†	?	*	*
1. SCOTLAND, E.	Nairn	64	45	61·1	50·7	55·6	− 1·5	95	0	5	0·41	−0·20	*	*
	Aberdeen	63	49	59·7	52·1	55·7	− 1·0	96	0	6	1·71	+1·02	18·5	17
	Braemar S	62	44	57·4	47·5	52·1	− 2·2	71	0	7	3·61	+2·77	10·3‡	10‡
	Ochtertyre S	69	46	65·7	50·1	57·4	+ 0·2	108	0	4	1·01	+0·22	*	*
	Leith	68	48	64·0	50·6	56·9	− 1·3	104	0	6	1·39	+0·79	*	*
	Marchmont S	65	45	62·6	49·0	55·4	− 0·8	94	0	6	0·59	−0·20	16·3	15
2. ENGLAND, N.E.	Alnwick Castle	65	44	61·6	51·0	56·0	− 0 9	98	0	5	1·77	+1·09	*	*
	Durham	68	49	63·8	50·7	56·9	− 0·6	104	0	6	1·03	+0·39	13·2	12
	Shields	64	51	61·4	52·0	56·4	− 1·3	101	0	6	1·66	+1·04	*	*
	Scarborough ℳ	65	51	62·5	52·7	57·3	− 1·8	107	0	7	1·55	+0·95	13·8‡	13‡
	York	70	48	64·4	51·3	57·5	− 2·8	109	0	6	1·41	+0·86	14·4	14
	Spurn Head	67	52	64·1	53·7	58·6	− 1·1	116	0	7	1·41	?	*	*
3. ENGLAND, E.	Hillington ℳ	71	46	66·5	50·1	57·8	− 2·5	111	0	7	2·33	+1·74	30·6	29
	Yarmouth	67	50	64·4	52·3	58·0	− 2·8	112	0	6	1·18	+0·68	*	*
	Geldeston	71	49	66·4	51·1	58·3	− 2·8	114	0	6	1·38	+0·94	38·9	37
	Cambridge	72	45	67·4	49·1	57·7	− 4·7	110	0	5	0·88	+0·36	44·7	43
	Rothamsted	69	45	65·2	50·5	57·4	− 4·3	108	0	6	0·66	+0·07	*	*
	Ingatestone	70	47	66·2	50·0	57·6	− 5·0	109	0	4	0·82	+0·34	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	68	47	64·9	50·9	57·5	− 3·1	109	0	6	1·25	+0·69	21·5‡	20‡
	Loughborough	72	47	66·0	51·1	58·1	− 3·4	113	0	5	1·04	+0·47	22·9‡	22‡
	Cheadle ℳ	67	41	61·7	48·2	54·6	− 5·2	88	0	7	1·65	+0·85	*	*
	Churchstoke ℳ	68	39	63·0	47·8	54·9	− 4·9	90	0	5	0·66	+0·07	31·8	30
	Hereford ℳ	71	45	66·4	49·9	57·7	− 3·7	110	0	4	0·59	+0·02	*	*
	Cirencester	67	44	62·6	47·6	54·7	− 6·2	89	0	4	0·77	+0·04	39·2	38
	Oxford	67	47	64·7	51·0	57·4	− 4·0	108	0	3	0·70	+0·16	37·3	36
5. ENGLAND, S.	London	71	48	67·0	51·6	58·8	− 4·0	118	0	5	0·46	−0·04	38·3‡	37‡
	Strathfield Turgiss ℳ	70	46	66·0	48·9	56·9	− 4·4	104	0	4	0·59	+0·08	*	*
	Dungeness	69	47	66·4	53·7	59·7	− 2·0	124	0	4	0·50	+0·06	*	*
	Hastings (St. Leonard's)	72	49	64·8	52·2	58·1	− 3·4	113	0	4	0·41	−0·09	45·1	44
	Southampton	71	48	67·2	51·1	58·7	− 3·1	117	0	5	0·50	−0·09	44·8	43
	Hurst Castle	67	50	65·4	54·7	59·7	− 1·7	124	0	5	1·11	+0·61	*	*
	Stowell ℳ	64	45	63·0	49·2	55·7	− 4·7	96	0	5	1·12	?	38·2‡	37‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	66	44	62·9	50·4	56·3	− 0·7	100	0	5	0·52†	−0·59	*	*
	Glasgow	67	47	62·8	51·5	56·8	− 0·4	104	0	3	0·73	−0·11	20·8	19
	Ardrossan	64	45	62·1	51·4	56·4	− 1·2	101	0	3	0·35	−0·54	*	*
	Glenlee S	68	42	63·4	47·6	55·0	− 2·5	91	0	4	0·83	−0·16	*	*
	Douglas (Isle of Man)	66	47	63·3	50·4	56·5	− 1·2	102	0	3	1·53	+0·74	34·6§	33§
7. ENGLAND, N.W.	Newton Reigny (Penrith)	66	44	62·2	48·8	55·1	− 2·8	92	0	4	0·56	−0·15	16·0	15
	Barrow-in-Furness	63	54	60·6	54·6	57·4	− 2·6	108	0	6	0·98	+0·20	*	*
	Stonyhurst	66	50	61·3	51·6	56·2	− 3·0	99	0	5	1·30	+0·27	23·8	22
	Blackpool ℳ	68	51	63·8	52·5	57·8	− 2·6	111	0	4	1·13	+0·44	23·3	22
	Manchester	66	50	62·4	51·3	56·5	− 3·8	102	0	6	1·24	+0·44	*	*
	Liverpool Obsy (Bidston)	66	52	63·1	53·0	57·8	− 2·8	111	0	5	0·82	+0·19	*	*
	Llandudno ℳ	67	47	63·0	53·2	57·8	− 2·7	111	0	5	1·37	+0·77	22·5	21
	Holyhead	65	50	63·3	53·3	58·0	− 1·7	112	0	4	0·61	−0·01	*	*
8. ENGLAND, S.W.	Llandovery	71	42	65·9	47·9	56·4	− 3·8	101	0	7	0·96	−0·04	*	*
	Pembroke	61	50	60·4	54·4	57·2	− 2·3	106	0	2	0·89	+0·25	56·1	54
	Arlington (N. Devon)	65	46	62·9	50·6	56·4	− 3·5	101	0	4	0·47	−0·78	*	*
	Cullompton ℳ	68	43	65·9	47·0	55·9	− 5·5	97	0	6	1·10	+0·48	41·2	40
	Falmouth	65	49	63·1	52·6	57·5	− 3·2	109	0	5	0·77	−0·03	55·3	54
	Plymouth	72	46	67·5	52·5	59·6	− 2·1	123	0	6	1·16	+0·53	49·5	48
	Prawle Point	66	49	62·1	53·1	57·3	− 2·4	107	0	5	0·46	?	*	*
9. IRELAND, N.	Malin Head	64	53	59·3	53·7	56·3	− 0·8	100	0	7	1·38	?	*	*
	Londonderry	?67	47	63·0	51·5	56·9	− 1·5	104	0	7	1·44	+0·64	*	*
	Mullaghmore	63	50	61·3	52·4	56·6	− 2·6	102	0	5	1·55	+0·77	*	*
	Belmullet	62	51	60·1	52·9	56·3	− 1·4	100	0	4	1·03	?	*	*
	Markree Castle	65	44	61·2	48·5	54·5	− 4·8	88	0	4	1·28	+0·48	29·3	28
	Brookeborough	65	41	62·0	48·9	55·1	− 4·3	92	0	5	1·17	?	*	*
	Armagh	65	48	62·4	50·2	55·9	− 3·5	97	0	6	1·08	+0·46	19·3	18
	Donaghadee	63	51	61·9	53·9	57·7	− 0·3	110	0	5	1·51	+0·85	*	*
	Edgeworthstown	65	46	63·3	48·1	55·2	− 4·3	92	0	5	0·97	+0·19	*	*
10. IRELAND, S.	Dublin	69	52	64·3	52·8	58·2	− 1·5	113	0	5	2·20	+1·57	25·7	24
	Parsonstown	67	46	64·1	49·7	56·5	− 2·7	102	0	4	0·64	−0·14	31·3	30
	Kilkenny	67	46	64·3	49·9	56·7	− 3·0	103	0	5	1·28	+0·60	*	*
	Waterford	67	44	66·3	49·6	57·5	− 2·5	109	0	6	1·15	+0·38	*	*
	Roche's Point	65	50	63·3	52·0	57·3	− 3·0	107	0	6	0·95	+0·18	*	*
	Valencia	66	52	63·1	53·6	58·1	− 1·1	113	0	6	1·33	+0·33	43·5	42
	Killarney	64	46	62·4	50·6	56·2	− 3·3	99	0	6	1·30	?	*	*
	Foynes	65	51	62·6	52·4	57·2	− 1·7	106	0	6	0·73	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	66	52	63·3	55·6	59·2	− 1·6	120	0	4	0·42	−0·12	*	*
	Jersey	68	50	65·6	55·3	60·1	− 1·9	127	0	3	0·45	−0·05	60·6	59

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked S with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

§ The corresponding values for last week should be 39·2 and 36.

Errata.—At Blackpool the average temperature "For whole of the day" for the weeks ending July 22 and July 29 should be respectively 57·5 and 57·9.

(OFFICIAL COPY.)

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VI. No. 33.] *Third Series.* WEEK ENDING MONDAY, 19TH AUGUST, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861-80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866-85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881-85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 198.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	68	41	60·3	48·5	54·0	1 below.	84	− 4	0	0	1431	+204	514	+ 4
	1. SCOTLAND, EAST	69	38	62·9	49·4	55·7	0 (average).	96	−12	0	0	1669	+ 53	548	+ 5
	2. ENGLAND, N.E.	71	49	64·1	52·5	58·0	0 (average).	112	− 4	0	0	1763	+ 42	489	+ 7
	3. ENGLAND, EAST	74	47	68·6	52·3	59·9	1 below.	125	− 3	0	0	2018	+ 13	619	+112
	4. MIDLAND COUNTIES	74	45	66·8	51·9	58·9	2 below.	118	− 6	0	0	2014	+ 6	564	+ 60
	5. ENGLAND, SOUTH	75	46	67·6	53·5	60·1	1 below.	127	− 9	0	0	2204	+ 51	448	+ 75
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	66	48	61·8	52·2	56·7	0 (average).	103	− 6	0	0	1783	+ 86	375	− 23
	7. ENGLAND, N.W.	70	49	63·2	54·1	58·4	1 below.	115	− 3	0	0	1871	+ 71	382	− 1
	8. ENGLAND, S.W.	72	43	64·3	53·3	58·5	2 below.	116	−10	0	0	2020	− 23	321	+ 88
	9. IRELAND, NORTH	69	43	62·1	52·5	57·0	1 below.	105	− 6	0	0	1811	+ 36	297	− 53
	10. IRELAND, SOUTH	75	45	64·2	53·2	58·4	1 below.	115	− 4	0	0	2021	+ 8	225	− 14
	— CHANNEL ISLANDS	70	52	64·8	57·0	60·6	1 below.	130	− 5	0	0	2273	+ 94	77	− 16

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 198.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	6	15	4 more.	154	+14	23·6	−1·5	13	13	734	−161	23	− 6
	1. SCOTLAND, EAST	6	12	5 more.	125	+ 6	17·2	−2·0	26	25	931	−105	30	− 3
	2. ENGLAND, N.E.	4	11	5 more.	114	0	15·6	−0·6	29	28	863	− 93	28	− 3
	3. ENGLAND, EAST	3	4	1 less.	120	+ 4	16·5	+1·4	31	30	947	−215	31	− 7
	4. MIDLAND COUNTIES	3	6	0 (average).	112	− 3	19·0	+1·6	30	29	891	−138	29	− 5
	5. ENGLAND, SOUTH	3	6	1 more.	117	+ 8	15·5	−0·5	30	30	925	−180	30	− 6
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	6	25	13 more.	129	0	25·5	−2·1	25	25	934	− 14	32	0
	7. ENGLAND, N.W.	5	14	7 more.	119	− 1	19·1	−0·9	17	17	950	− 53	31	− 1
	8. ENGLAND, S.W.	5	9	0 (average).	119	− 6	21·3	−3·6	25	25	1087	− 89	36	− 3
	9. IRELAND, NORTH	7	23	16 more.	144	0	23·8	+2·4	18	18	833	− 98	27	− 3
	10. IRELAND, SOUTH	6	29	21 more.	131	− 4	23·6	−0·2	26	25	1037	− 14	34	0
	— CHANNEL ISLANDS	5	4	1 less.	125	− 9	16·3	−2·1	28	28	1209	−199	40	− 7

General Remarks.

Weather has been generally fair over southern, central, and eastern England, but very unsettled and rainy in all other parts of the Kingdom. Towards the close of the week the rainfall over our western districts was extremely heavy.

Temperature has just equalled the mean in the east and west of Scotland and the north-east of England, but in all other districts a deficit of 1° or 2° is shown. The highest of the maxima, which were recorded on the 16th over England and on irregular dates over Ireland and Scotland, ranged from 75° in "England, S." and "Ireland, S." to 66° in "Scotland, W." The lowest of the minima were registered at very irregular times, and ranged from 38° in "Scotland, E." to 49° in "England, N.W." and 52° in the "Channel Islands."

Rainfall has been rather less than the mean in "England, E." and the "Channel Islands", and about equal to it in the "Midland Counties" and "England, S.W.", elsewhere, however, an excess is shown. In "Scotland, N." and over Ireland the fall has been unusually heavy.

Bright sunshine has been very deficient generally, the percentage of the possible amount of duration having ranged from 13 in "Scotland, N.", 17 in "England, N.W.", and 18 in "Ireland, N." to 30 in "England, E.", and "England, S."

Barometer and Wind.—Barometrical pressure has continued highest in the south and south-east, and lowest in the north and north-west. Depressions have again skirted our western coasts in a north-easterly direction or travelled over our Islands from the Atlantic, and the winds, which were at first North-Westerly, have consequently varied between South and West, and have occasionally increased considerably in force.

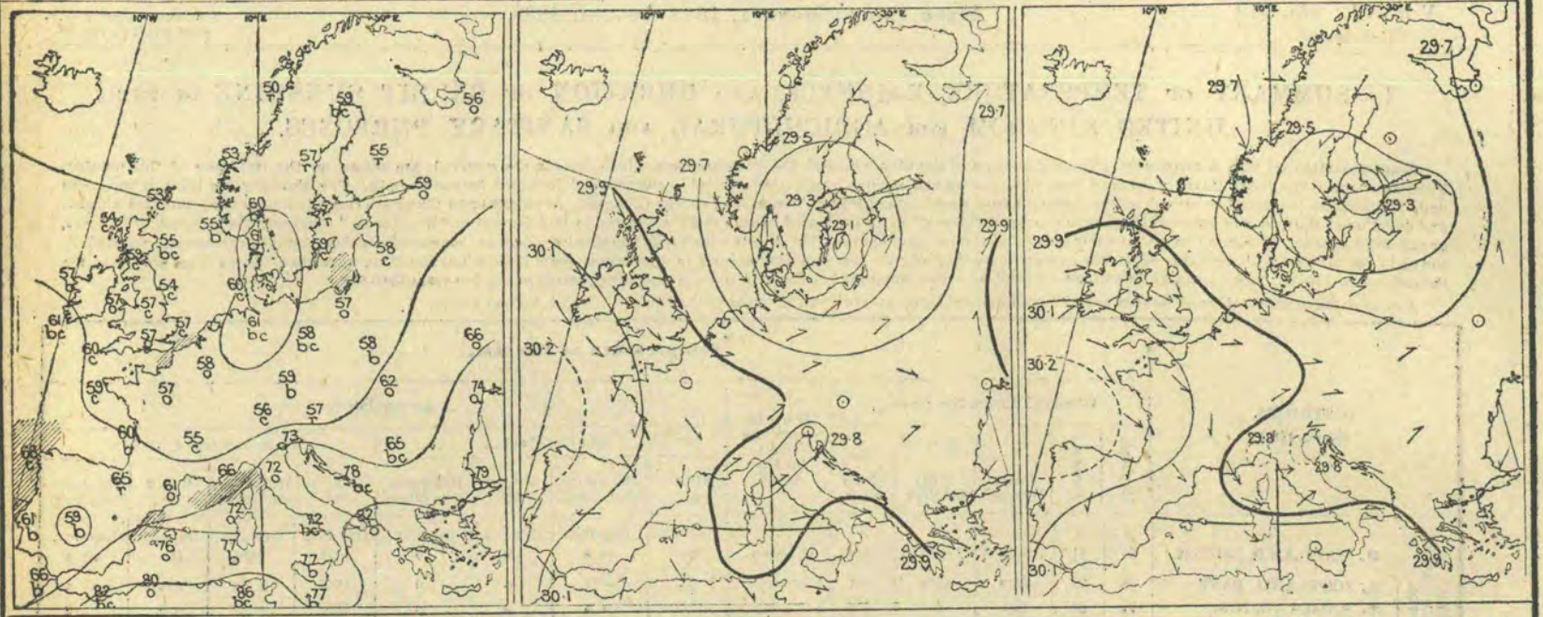
59799. 350.–8/89. Wt. 36. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 13th August.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather dull and unsettled over Northern Europe, as well as in Austria, the north of Italy, and the extreme south of France, with rain in several places. Fair or fine in nearly all other localities. Improvement taking place over Northern Europe later, but sky becoming overcast in the west of our Islands, with heavy rain in Ireland at night. Thunderstorms occurring during day at Trieste and Toulon.

Temperature highest, 80° and upwards, over Algeria and the extreme south of Italy; lowest, 55° or less, over the west of Norway, and the northern and central parts of the United Kingdom. Daily maxima below 65° in most parts of our Islands, and below 70° in Germany, and the west and north of France, but thermometer rising above 80° in the extreme south of France, above 90° in the south of Italy, and above 100° in Central Algeria. Highest readings of all 108° at Biskra, 91° at Brindisi, and 90° at Palermo, Algiers, and La Calle.

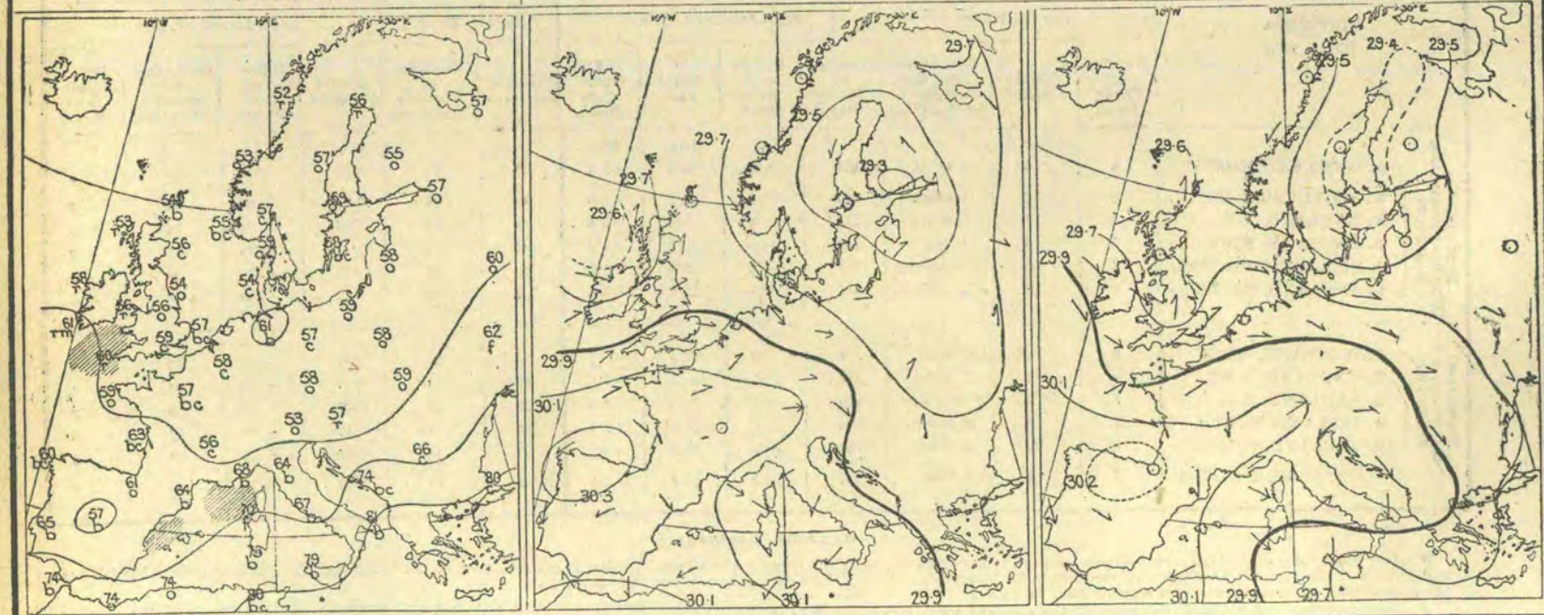
Wind light or moderate from the North-Westward over our Islands, and France, and strong from the same quarter on the eastern shores of the North Sea. South-Westerly over Germany and the Baltic Provinces, South-Easterly in Finland, North-Easterly or Northerly in Sweden, with a gale at Wisby; variable over the greater part of Southern and Eastern Europe, but North-Easterly or Northerly in Spain. Subsequently backing to the South-Westward in the west of our Islands.

Barometer highest, 30·2 ins. and upwards, in a large anticyclone lying to the south-westward of our Islands and the north-westward of Spain; high, 30·0 ins. and upwards, over the south of Russia. Lowest, 29·1 ins. and less, in a rather deep depression lying over the Baltic; low, 29·8 ins. and less, in a shallow area lying over the south-east of France and the north of Italy. Depression over Baltic subsequently moving north-eastwards, and growing shallower, but new disturbance beginning to approach the west of Ireland.

Wednesday, 14th August.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather rainy in all the more western parts of the United Kingdom as well as at Haparanda, Helsingfors, and Vienna. Cloudy and overcast in all but the more southern countries of Europe where mostly fine and bright. Rain falling later in all parts of Western and Central Europe,—heavily in places—and thunderstorms occurring at some of the German stations.

Temperature highest, 75° and upwards, over the central and southern parts of the Mediterranean; lowest, 55° and less, over the northern parts of the United Kingdom and the west of Norway, as well as in some parts of France and Germany. Daily maxima below 65° over the greater part of the United Kingdom as well as in Germany and the north of France, but thermometer rising above 80° in Spain and the extreme south of France, above 90° in the south of Italy, and above 100° over central Algeria. Highest readings of all 108° at Biskra and 104° at Laghouat.

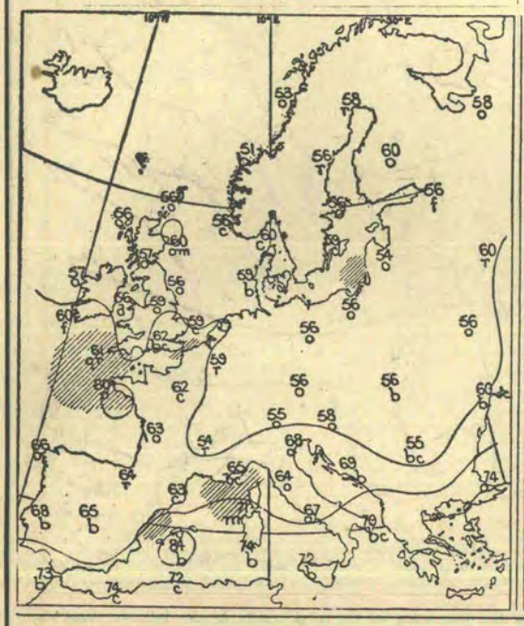
Wind moderate to fresh from the South-Westward over Ireland, England, and the north of France and light or moderate from the Southward in Scotland. Moderate Westerly and North-Westerly over Germany, Denmark and the south of France; Easterly in Lapland and Northern Russia, variable in Italy; North-Easterly in Spain and Algeria. Subsequently veering to the North-Westward on all our western coasts.

Barometer highest, 30·3 ins. and upwards, in an anticyclone lying over the north of Spain. Lowest, 29·3 ins. and less, in a small depression lying over the Gulf of Finland, but low, 29·6 ins. and less, in another disturbance approaching the west of Scotland. Depression off west of Scotland subsequently travelling away north-eastwards, but "V-shaped" secondary disturbance advancing eastwards directly over our northern districts. Barometer rising in west during latter part of day.

II.—SUMMARY OF WEATHER OVER EUROPE.

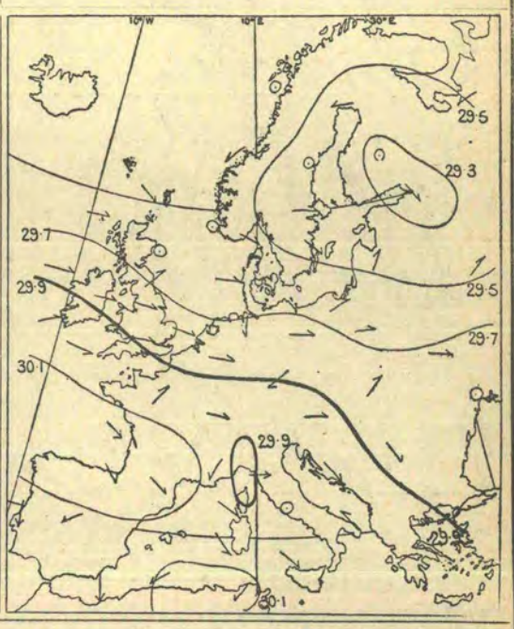
Thursday, 15th August.

Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.

Barometer and Wind. — 6 p.m.



Weather fine in the north of Scotland and the south east of England, as well as in Denmark, the south of Norway, and the greater part of Southern Europe. Cloudy or overcast elsewhere, with rain in the north of Ireland and the eastern and central parts of France, as well as over the Baltic and the Gulf of Finland. Improvement taking place over our Islands later, but rain falling over Northern Russia.

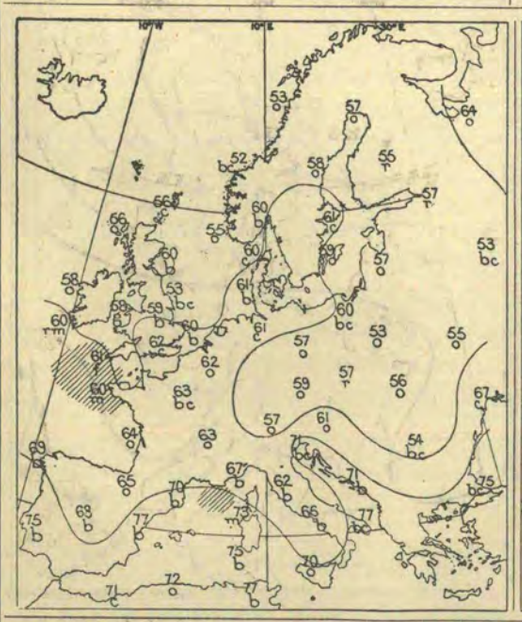
Temperature highest, 75° and upwards, at some of the Mediterranean stations; lowest, 55° or less, in the west of Norway, and also over Poland and the Baltic provinces. Daily maxima a little above 70° over Central England, above 80° over Spain and the southern parts of France and Italy, and above 90° in Central Algeria. Highest readings of all 100° at Biskra, and 97° at Cape Béarn.

Wind moderate from the Westward or South-Westward over our Islands, the east of France, and the greater part of Central Europe, and from the North-Westward over the south of Scandinavia, and the west and south of France. Light North-Easterly over the Iberian peninsula; variable at the Algerian stations. No important change occurring during day.

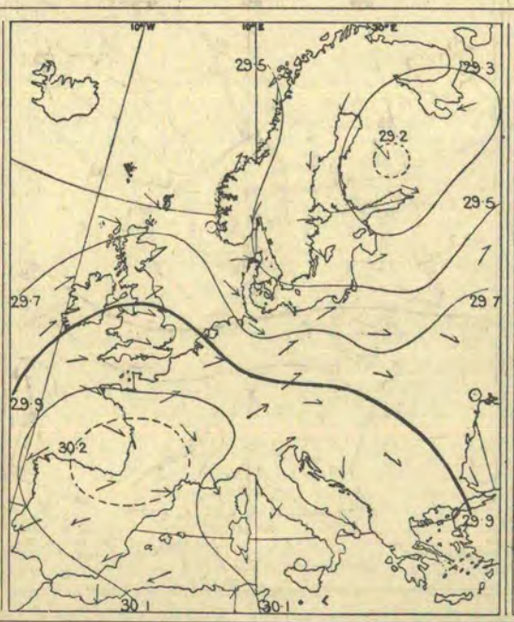
Barometer highest, 30·3 ins. and upwards, in an anticyclone lying off the north-west of Spain. Lowest, 29·3 ins. and less, in a small depression lying over Eastern Lapland, but low, 29·4 ins. and less, in a large and irregularly shaped area extending from the northern parts of Sweden and Finland to Central Russia. Anticyclone subsequently advancing in an east north-easterly direction over Bay of Biscay, and barometer rising in most parts of Western Europe.

Friday, 16th August.

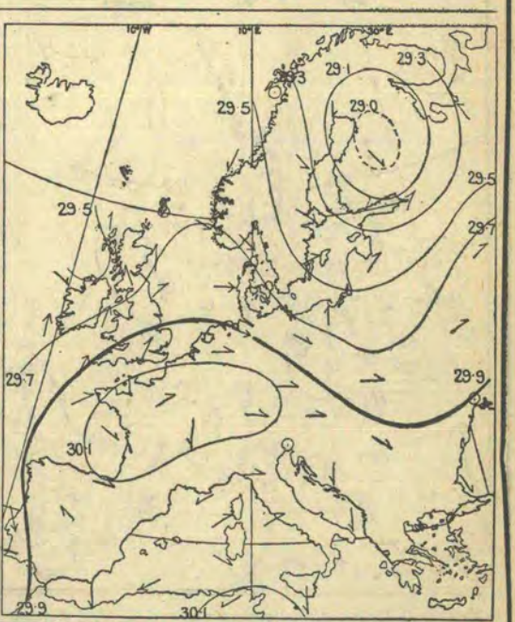
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fine over Southern and Eastern Europe, as well as over the North Sea and the east and south-east of England. Cloudy or overcast elsewhere with fog at the mouths of the English and St. George's Channels, and rain in the west of Ireland, as well as at Kuopio and St. Petersburg. Heavy rain falling later in all the western parts of the United Kingdom, the largest amounts being 1·2 ins. at Mullaghmore and 1·0 inch at Malin Head.

Temperature highest, 75° and upwards, at several of the Mediterranean stations; lowest, 55° or less, over Central Russia and the west of Norway. Thermometer subsequently rising to between 70° and 75° over the inland parts of England, to 80° or more over Italy and the south of France, and to 90° or more over the central parts of Spain and Algeria. Highest readings of all 99° at Biskra, and 97° at Lisbon and Laghouat.

Wind light or moderate from the South-Westward over our Islands, as well as over the greater part of Central Europe, but Northerly in the north of Scandinavia and North-Westerly in Finland. Light or moderate from the North-Eastward over Spain and the west of Italy, but variable over the central and southern parts of the Mediterranean. Subsequently backing to the Southward on all the western coasts of our Islands, and increasing to a strong breeze or moderate gale.

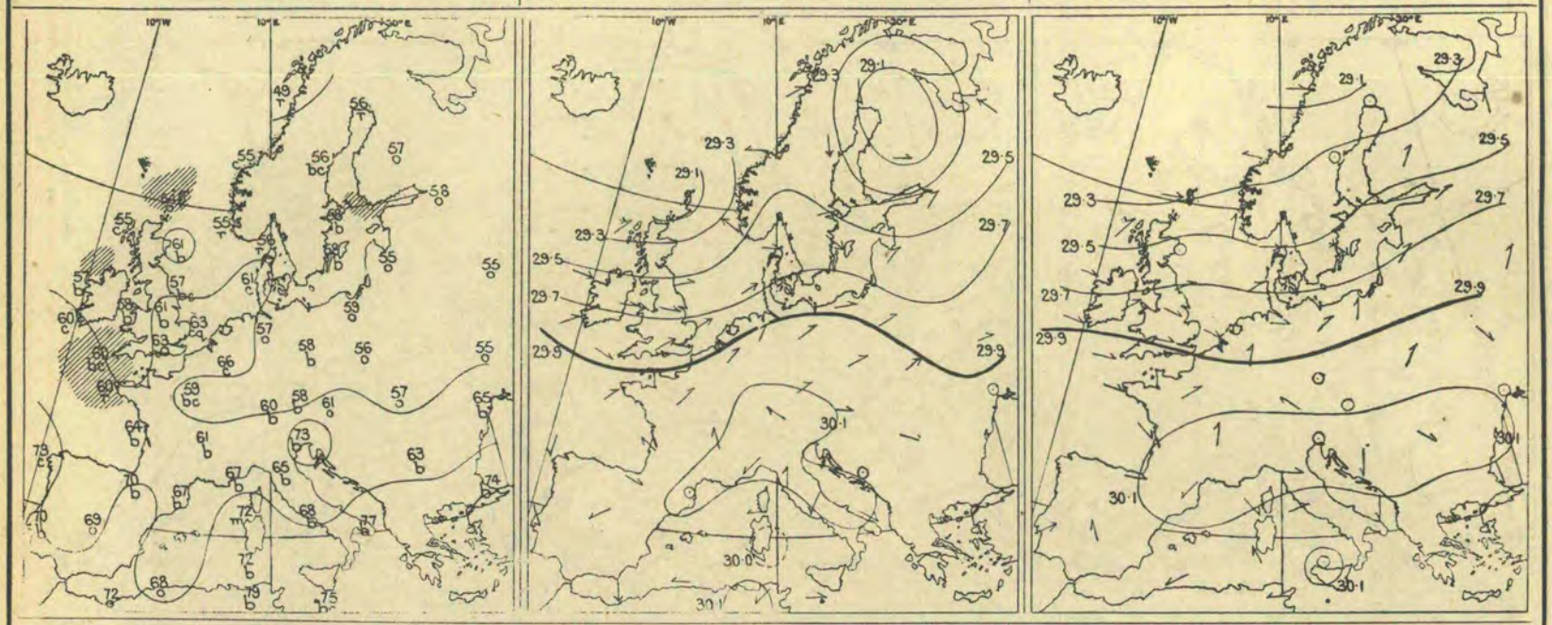
Barometer highest, 30·2 ins. and upwards, in an anticyclone lying over the south of France, the north-east of Spain, and the eastern parts of the Bay of Biscay. Lowest, 29·2 ins. and less, in a depression lying over Finland, but low, 29·8 ins. and less, to the westward of our Islands. Well-marked and rather deep depression subsequently advancing to our extreme north-west coasts, and barometer falling quickly at all our western stations.

11.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 17th August.

Temperature and Weather. **Barometer and Wind.**

8 a.m. **8 a.m.** **6 p.m.**



Weather dull and unsettled over Northern Europe and the south-eastern and north-western parts of the United Kingdom, with rain in many places. Fair or fine in nearly all other localities. Showers falling in many parts of our Islands during the day, and thunderstorms occurring at some of the German stations.

Temperature highest, 75° and upwards, at several of the Mediterranean stations; lowest, 55° or less, over Central Russia, the west of Norway, and the extreme north of our Islands. Daily maxima below 70° in most parts of the United Kingdom, but a little above that point over our eastern and south-eastern counties. Thermometer rising above 80° in many parts of France and Southern Europe, and above 90° at some of the Algerian stations, the highest readings of all being 99° at Biskra, 98° at Tunis, and 91° at Madrid.

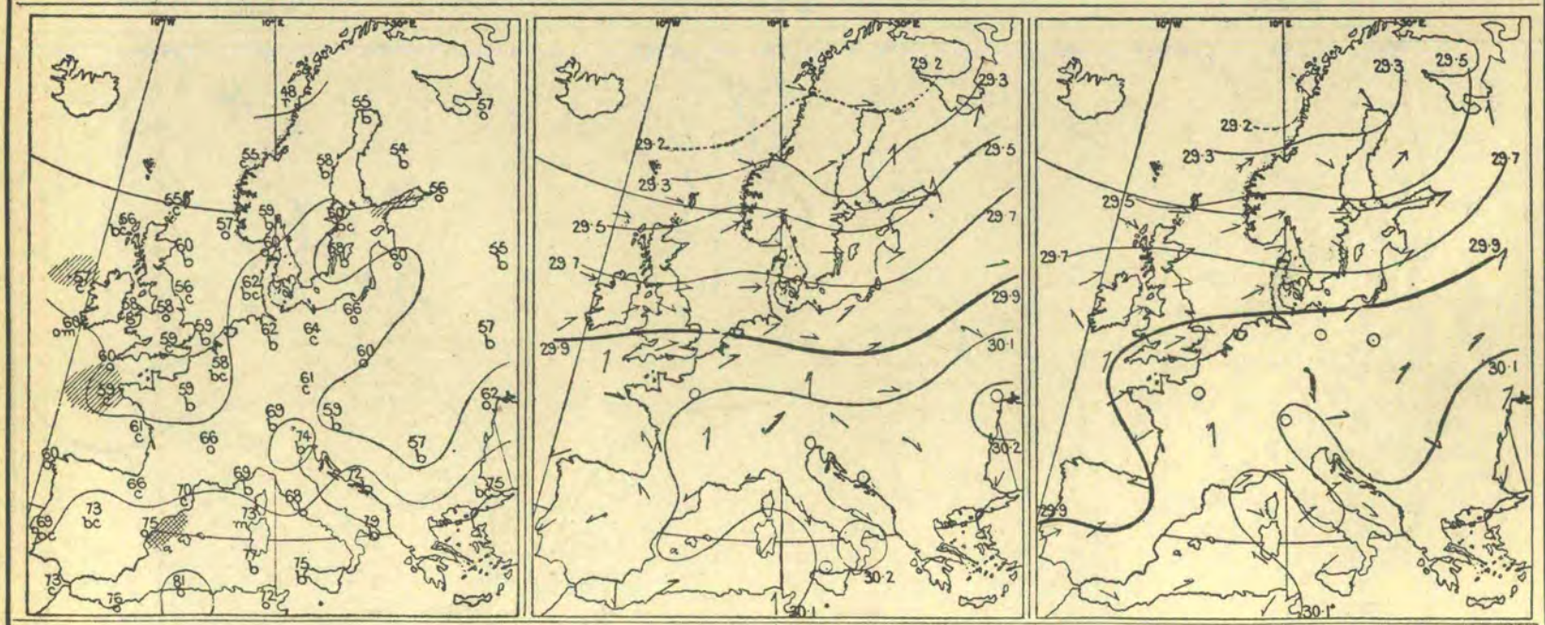
Wind moderate to strong from the Westward on the west coasts of our Islands, from the South-Westward over the southern parts of the North Sea, and from the South-Eastward or Eastward in the west of Norway. Chiefly North-Easterly or Northerly in Spain, Algeria, and the south of France, and variable over Italy, Central France, and the southern parts of Austria and Russia. Cyclonic circulation shown over Sweden, the Baltic, and Northern Russia, subsequently veering to the Westward in nearly all parts of North-Western Europe.

Barometer highest, 30·1 ins. and upwards, in a large anticyclone lying over the Adriatic, Northern Italy, and the southern parts of France and Germany, as well as in a smaller system lying near Tunis. Lowest, 29·1 ins. and less, in two well-defined depressions, one lying over Lapland and the north of Finland, and the other to the northward of Scotland. Both disturbances subsequently travelling away in a northerly direction, and barometer rising in most parts of Northern and North-Western Europe.

Sunday, 18th August.

Temperature and Weather. **Barometer and Wind.**

8 a.m. **8 a.m.** **6 p.m.**



Weather fine generally over Eastern, Southern, and South-Western Europe, and temporarily fine at several stations in the British Islands and their neighbourhood, where, however, the conditions were somewhat unstable and the clouds occasionally heavy; overcast in several localities, rainy at Bodö and Memel. Becoming rainy in the west of our Islands later, and showery in the north. Much thunder and lightning over France, and some in Switzerland and Germany.

Temperature below 70° in the morning except over Spain and the southern and eastern shores of the Mediterranean, and below 60° over nearly the whole of the British Islands, Scandinavia, and Russia; lowest of all, 48° at Bodö. Rising to over 100° in Algeria later, and to between 80° and 90° in many parts of Southern and South-Eastern Europe, but not reaching 70° in the British Islands, except over the inland parts of our south-eastern counties.

Wind generally Westerly over Norway, the British Islands, north of France, the North Sea, and a great deal of the Baltic and Germany. South-Westerly over Finland and the Gulf of Bothnia, and blowing rather strongly in several places; Easterly to North-Easterly over the Bay of Biscay and Spain, very light and variable over the Mediterranean and south-eastern Europe. Backing decidedly over the United Kingdom later, but changing little elsewhere.

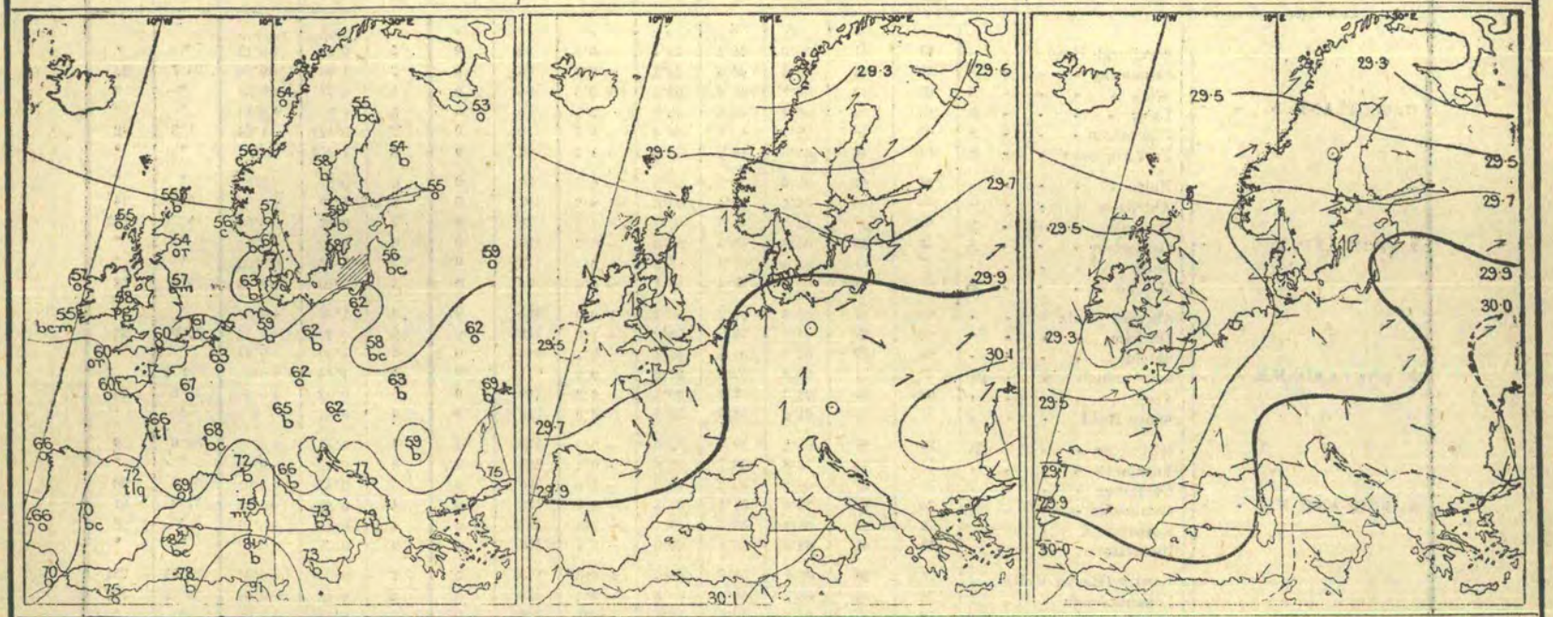
Barometer at 8 a.m. highest (30·1 ins. to 30·2 ins.) over Southern and South-Eastern Europe; lowest (29·2 ins. and less) in the far North; gradient slight in the former, moderate in the latter regions. Falling somewhat on our south-western coasts and in the western parts of France and Spain later.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 19th August.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fair over Northern Europe, fine in the east, south-east, and south. Becoming very dull in our Islands, and extremely rainy in the west and north-west. Much rain over France and the Netherlands also, with thunder and lightning in several places.

Temperature risen over France and also over Northern Europe. Below 60° over the north-western, northern, and north-eastern countries, but above 70° in many of the more southern parts of France, above 80° at Barcelona, Palma, and Aumale, and above 90° at La Calle. Daily maxima exceeding 70° over the inland parts of England, and exceeding 80° in many parts of France, Germany, and Italy. Maximum readings of 100° and more recorded in some parts of Algeria.

Wind still mainly Westerly over Northern Europe, but back to South and South-East over the greater part of the British Islands and north of France, and to North-North-East at Valencia. Very light and variable over Central and Eastern Europe. Increasing a little in force over the United Kingdom later; veering to South and South-West in France, and backing to East in the Netherlands.

Barometer highest over South-Eastern, lowest over Northern and Western, Europe; gradients moderate. Rising over the northern countries; falling decidedly in the west. Depression forming off the south of Ireland, and growing deeper; subsequently moving north-eastwards towards England.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟹ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

At the commencement of the week an anticyclone lay over the Bay of Biscay, the west of France, and the south-west of our Islands, while a small depression of diminishing intensity travelled north-eastwards from the Baltic to Finland and Northern Russia. During the remainder of the period, however, the region of highest pressure was gradually transferred to Southern and afterwards to South-Eastern Europe, while numerous depressions travelled eastwards across the north of our Islands on their way to the extreme northern parts of the Continent. The prevailing winds were, therefore, Westerly (South-West to North-West) in all but the more southern countries, and on the coasts of our Islands and Scandinavia they occasionally blew with considerable strength. At the close of the week a small, but growing, disturbance was advancing over the United Kingdom from the south-westward, and a cyclonic circulation of wind was setting in over nearly the whole of North-Western Europe.

III.—DATA from which the SUMMARY on page 193 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ⚓	61	41	59·0	48·4	53·4	− 0·5	80	0	5	0·89	+0·17	*	*
	Stornoway	60	44	59·4	49·4	54·1	− 0·7	85	0	7	1·51	+0·70	24·7	24
	Wick ⚓	68	43	63·1	48·6	55·4	+ 0·3	94	0	4	0·72	+0·20	*	*
	Lairg ⚓	63	42	60·4	45·6	52·6	− 2·1	74	0	6	0·99	+0·34	*	*
	Glencarron ⚓	62	46	58·3	48·9	53·3	− 1·2	79	0	7	3·12†	+1·66	1·8	2
	Fort Augustus ⚓	64	42	61·3	49·9	55·3	− 1·2	93	0	6	1·47†	?	*	*
1. SCOTLAND, E.	Nairn	65	41	63·0	50·0	56·1	− 0·5	99	0	6	0·83	+0·21	*	*
	Aberdeen	68	48	63·6	50·4	56·6	+ 0·2	102	0	6	1·10	+0·39	35·8	34
	Braemar ⚓	62	38	58·9	46·5	52·3	− 1·2	72	0	7	0·82	−0·06	18·3‡	18‡
	Ochtertyre ⚓	69	45	64·7	48·9	56·3	− 0·2	100	0	6	2·19	+1·39	*	*
	Leith	67	51	64·4	52·3	58·0	+ 0·3	112	0	5	1·14	+0·55	*	*
	Marchmont ⚓	65	44	62·6	48·4	55·1	− 0·6	92	0	4	1·29	+0·50	23·3	22
2. ENGLAND, N.E.	Alnwick Castle	64	49	62·3	51·7	56·7	+ 0·2	103	0	6	1·57	+0·89	*	*
	Durham	68	49	64·9	51·8	58·0	− 1·0	112	0	3	0·77	+0·14	29·0	28
	Shields	65	50	62·7	51·4	56·7	− 0·7	103	0	5	1·49	+0·87	*	*
	Scarborough ⚓	69	51	63·8	52·5	57·8	− 0·9	111	0	3	1·14	+0·55	? ‡	‡
	York	69	49	66·3	52·7	59·1	− 0·2	120	0	3	0·99	+0·44	28·9	28
	Spurn Head	71	53	64·4	55·0	59·4	0·0	122	0	4	0·61	?	*	*
3. ENGLAND, E.	Hillington ⚓	73	47	68·7	51·6	59·6	− 0·3	123	0	4	0·48	−0·11	30·6	30
	Yarmouth	71	50	66·3	53·7	59·6	− 0·1	123	0	3	0·45	−0·03	*	*
	Geldeston	72	48	68·5	52·2	59·9	− 1·0	125	0	3	0·43	+0·01	30·8	30
	Cambridge	74	47	70·6	51·1	60·3	− 1·5	128	0	4	0·27	−0·25	31·0	31
	Rothamsted	72	47	68·4	52·8	60·1	− 1·2	127	0	4	0·23	−0·35	*	*
	Ingatestone	73	48	68·9	52·1	60·0	− 2·1	126	0	2	0·35	−0·12	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	73	50	67·7	54·0	60·4	+ 0·6	129	0	3	0·54	−0·01	25·5‡	25‡
	Loughborough	74	50	68·1	53·4	60·3	− 0·3	128	0	4	0·58	−0·01	30·2‡	30‡
	Cheadle ⚓	70	48	63·3	50·5	56·5	− 3·1	102	0	3	0·84	+0·02	*	*
	Churchstoke ⚓	72	47	65·8	51·1	58·0	− 1·6	112	0	4	0·46	−0·14	25·9	25
	Hereford ⚓	74	46	68·9	51·5	59·7	− 1·4	124	0	3	0·85	+0·27	*	*
	Cirencester	69	45	65·6	49·1	56·9	− 3·7	104	0	3	0·80	+0·06	29·9	30
	Oxford	72	50	68·1	53·4	60·3	− 1·1	128	0	3	0·44	−0·09	35·9	36
5. ENGLAND, S.	London	75	50	70·4	54·1	61·8	− 0·7	139	0	2	0·45	−0·05	31·3‡	31‡
	Strathfield Turgiss ⚓	72	47	68·2	52·2	59·7	− 1·5	124	0	4	0·36	−0·14	*	*
	Dungeness	69	50	67·4	54·0	60·3	− 1·3	128	0	3	0·60	+0·12	*	*
	Hastings (St. Leonard's)	69	49	66·3	54·1	59·8	− 1·6	125	0	2	0·58	+0·04	34·8	35
	Southampton	73	48	69·1	53·1	50·6	− 1·1	130	0	4	0·62	+0·03	28·6	29
	Hurst Castle	70	51	67·3	55·1	60·8	− 0·4	132	0	2	0·73	+0·21	*	*
	Stowell ⚓	68	46	64·7	51·8	57·9	− 2·5	111	0	5	0·62	?	23·2‡	23‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	65	50	60·9	52·9	56·7	− 0·2	103	0	7	3·38†	+2·29	*	*
	Glasgow	64	48	61·8	51·6	56·4	− 0·5	101	0	7	2·17	+1·32	23·4	23
	Ardrossan	63	51	61·6	53·3	57·2	− 0·2	106	0	6	2·20	+1·29	*	*
	Glenlee ⚓	64	48	62·1	50·0	55·7	− 1·0	96	0	6	2·34	+1·34	*	*
	Douglas (Isle of Man)	66	53	62·7	53·1	57·6	0·0	109	0	5	2·21	+1·40	26·8	26
7. ENGLAND, N.W.	Newton Reigny (Penrith)	64	49	62·5	51·1	56·5	− 1·2	102	0	5	0·92	+0·20	18·1	18
	Barrow-in-Furness	63	54	61·3	55·3	58·1	− 1·9	113	0	5	1·78	+0·98	*	*
	Stonyhurst	67	52	61·9	53·3	57·3	− 1·9	107	0	6	2·45	+1·41	15·7	15
	Blackpool ⚓	67	54	63·9	54·7	59·0	− 1·3	119	0	6	1·35	+0·67	18·8	18
	Manchester	70	51	63·5	52·6	57·7	− 2·3	110	0	5	1·43	+0·65	*	*
	Liverpool Obsr (Bidston)	69	54	64·4	55·3	59·6	− 0·9	123	0	4	0·72	+0·08	*	*
	Llandudno ⚓	68	54	61·6	55·2	59·6	− 0·8	123	0	3	1·12	+0·52	16·3	16
	Holyhead	68	54	63·6	55·1	59·1	− 0·6	120	0	6	1·32	+0·67	*	*
8. ENGLAND, S.W.	Llandovery	72	47	67·1	52·0	59·1	− 0·7	120	0	6	1·12	+0·07	*	*
	Pembroke	63	54	61·0	55·9	58·3	− 0·7	114	0	6	1·07	+0·41	29·9	30
	Arlington (N. Devon)	66	46	63·3	51·6	57·1	− 2·3	106	0	5	1·46	+0·21	*	*
	Cullompton ⚓	72	43	66·6	51·1	58·4	− 2·8	115	0	4	0·52	−0·10	21·3	21
	Falmouth	66	52	64·0	54·7	59·1	− 1·8	120	0	4	0·73	−0·09	26·1	26
	Plymouth	69	48	66·7	53·9	59·9	− 1·8	125	0	3	0·70	+0·05	23·0	23
	Prawle Point	65	49	61·6	53·7	57·4	− 2·1	108	0	5	0·46	?	*	*
9. IRELAND, N.	Malin Head	62	49	60·4	52·6	56·3	− 0·8	100	0	7	2·24	?	*	*
	Londonderry	64	50	62·7	52·2	57·1	− 1·1	106	0	6	2·39	+1·58	*	*
	Mullaghmore	63	52	61·3	54·4	57·6	− 1·5	109	0	7	2·46	+1·68	*	*
	Belmullet	61	53	60·1	54·9	57·3	− 0·4	107	0	6	1·86	?	*	*
	Markree Castle	64	47	61·6	51·6	56·3	− 2·4	100	0	7	1·50	+0·69	13·8	13
	Brookeborough	64	50	61·7	50·6	55·8	− 3·3	97	0	7	2·43	?	*	*
	Armagh	65	51	63·7	51·6	57·3	− 1·7	107	0	7	2·59	+1·97	22·2	22
	Donaghadee	69	53	64·4	54·9	59·4	+ 1·7	122	0	7	3·08	+2·40	*	*
	Edgeworthstown	65	43	63·0	49·9	56·1	− 2·9	99	0	6	2·33	+1·55	*	*
10. IRELAND, S.	Dublin	70	50	65·0	54·1	59·2	− 0·3	120	0	5	2·40	+1·76	28·6	28
	Parsonstown	75	45	65·4	52·0	58·3	− 0·7	114	0	6	3·30	+2·51	27·6	27
	Kilkenny	68	45	64·4	51·7	57·7	− 1·5	110	0	5	2·43	+1·70	*	*
	Waterford	69	48	66·4	51·9	58·7	− 1·1	117	0	6	2·26	+1·44	*	*
	Roche's Point	66	50	64·0	54·3	58·9	− 1·1	118	0	5	3·02	+2·22	*	*
	Valencia	64	52	62·3	54·4	58·1	− 1·0	113	0	7	3·18	+2·14	21·0	21
	Killarney	66	49	63·7	53·0	58·0	− 1·6	112	0	6	3·38	?	*	*
	Foynes	66	52	62·4	54·4	58·2	− 0·5	113	0	7	3·25	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	67	55	63·9	57·0	60·2	− 0·7	127	0	5	0·53	−0·02	*	*
	Jersey	70	52	65·7	56·9	61·0	− 0·9	133	0	5	0·31	−0·20	27·6	28

Stations marked ⚓ are in connection with the Royal Meteorological Society, and those marked ⚓ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

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VOL. VI. No. 34.] *Third Series.* WEEK ENDING MONDAY, 26TH AUGUST, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861-80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866-85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881-85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 204.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	61	40	55·7	46·5	50·8	4 below.	62	−25	0	0	1493	+183	514	+ 4
	1. SCOTLAND, EAST	69	39	60·2	47·3	53·3	2 below.	79	−27	0	0	1748	+ 29	548	+ 5
	2. ENGLAND, N.E.	67	43	61·0	48·6	54·4	3 below.	87	−28	0	0	1850	+ 22	489	+ 7
	3. ENGLAND, EAST	68	39	62·7	49·2	55·6	5 below.	95	−32	0	0	2113	− 13	619	+112
	4. MIDLAND COUNTIES	67	38	61·8	47·9	54·4	6 below.	87	−37	0	0	2101	− 22	564	+ 60
	5. ENGLAND, SOUTH	68	40	64·0	51·8	57·6	3 below.	109	−26	0	0	2313	+ 28	448	+ 75
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	62	41	59·1	48·3	53·4	3 below.	80	−28	0	0	1863	+ 63	375	− 23
	7. ENGLAND, N.W.	63	42	59·9	50·4	54·8	4 below.	90	−26	0	0	1961	+ 49	382	− 1
	8. ENGLAND, S.W.	68	41	61·8	50·0	55·6	4 below.	95	−29	0	0	2115	− 52	321	+ 88
	9. IRELAND, NORTH	68	43	58·9	48·2	53·2	5 below.	78	−31	0	0	1889	+ 8	297	− 53
	10. IRELAND, SOUTH	67	41	61·5	48·9	54·7	4 below.	89	−28	0	0	2110	− 17	225	− 14
	— CHANNEL ISLANDS	69	53	62·6	55·1	58·5	3 below.	116	−18	0	0	2389	+ 75	77	− 16

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 204.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	7	23	18 more.	161	+18	25·9	+0·3	15	15	749	−174	23	− 6
	1. SCOTLAND, EAST	5	8	0 (average).	130	+ 8	18·0	−1·9	26	26	957	−116	30	− 3
	2. ENGLAND, N.E.	6	7	1 more.	120	+ 2	16·3	−0·6	27	28	891 *	− 97	28	− 3
	3. ENGLAND, EAST	6	7	2 more.	126	+ 6	17·2	+1·5	29	29	976	−223	31	− 7
	4. MIDLAND COUNTIES	5	9	2 more.	117	− 1	19·9	+1·7	25	26	916	−152	29	− 5
	5. ENGLAND, SOUTH	5	7	2 more.	122	+ 9	16·2	−0·4	35	33	960	−185	31	− 6
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	6	5	3 less.	135	+ 2	26·0	−2·4	29	29	1013	− 29	32	− 1
	7. ENGLAND, N.W.	6	12	4 more.	125	+ 2	20·3	−0·4	26	26	976	− 63	31	− 2
	8. ENGLAND, S.W.	5	10	1 below.	124	− 5	22·3	−3·5	43	43	1133	− 96	36	− 3
	9. IRELAND, NORTH	6	9	1 more.	150	+ 2	24·7	+2·5	24	24	857	−104	27	− 3
	10. IRELAND, SOUTH	4	9	1 more.	135	− 3	24·5	−0·1	35	35	1072	− 19	34	− 1
	— CHANNEL ISLANDS	5	7	1 more.	130	− 8	17·0	−2·0	52	53	1231	−205	40	− 7

General Remarks.

Weather has been very unsettled and rainy in all parts of the Kingdom, but towards the end of the time the conditions were improving. In the north of Scotland the rainfall during the earlier days of the period was extremely heavy. Over our south-western and southern districts the bright intervals were considerably in excess of those experienced further north.

Temperature has been below the mean in all districts, the deficit having ranged from 2° to 4° in Scotland, and from 4° to 5° over Ireland and in nearly all parts of England. The highest of the maxima, which were recorded on rather irregular dates, varied from 61° in "Scotland, N." and 62° in "Scotland, W.", to 68° in some parts of England and in "Ireland, N." to 69° in "Scotland, E." and the "Channel Islands." At many of our more northern stations the daily maxima were in several instances below 60°. The lowest of the minima were registered generally either on the 25th or 26th, when the sheltered thermometer fell to between 38° and 41° at many of the inland stations, to 43° in "Ireland, N.", but to only 53° in the "Channel Islands".

Rainfall has been less than the mean in "Scotland, W." and about equal to it in "Scotland, E." but in all other districts an excess is shown; in "Scotland, N." the excess has been very large.

Bright sunshine has been more prevalent than it was last week in the south and south-west, but elsewhere it shows no material alteration. The percentage actually recorded of the possible amount of duration ranged from 15 in "Scotland, N." to 36 in "England, S." and "Ireland, S.", to 48 in "England, S.W.", and to 53 in the "Channel Islands".

Barometer and Wind.—During the earlier part of the period two deep depressions travelled in a north-easterly direction over the United Kingdom, and caused strong winds or gales on nearly all our coasts,—from between North and East in the north, from the North-Westward in the west, and from the Westward in the south and over the Channel. As these systems passed away the barometer rose generally, but several local disturbances moved over our Islands from the westward from time to time, and the wind remained light to moderate from between West and North-West.

* This value has been altered slightly owing to the receipt of further information.

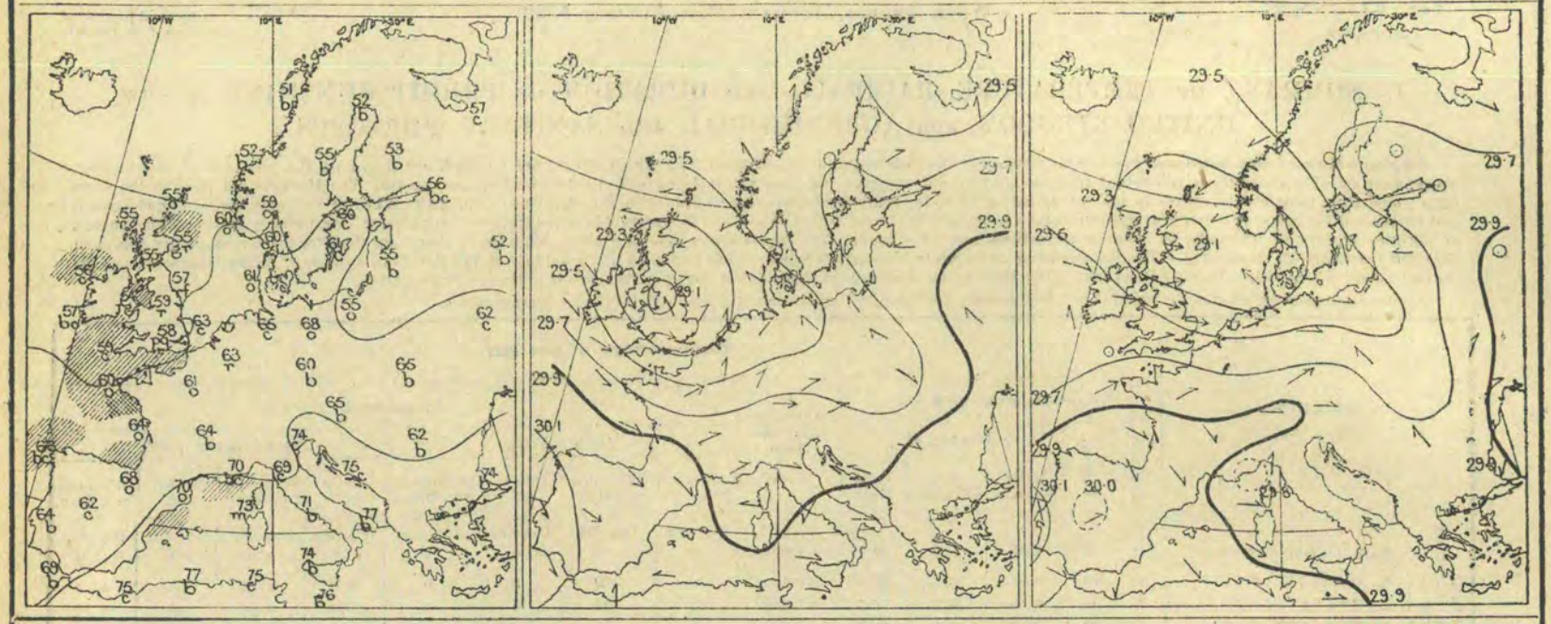
59865. 350.- 8/89. Wt. 36. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 20th August.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather rough, squally, and rainy over the British Islands, especially in the north-west and north, dull and showery over the North Sea, dull and unsettled (but improving) over France; fine and bright over Northern, Eastern, and South-Eastern Europe, and on the shores of the Mediterranean. Very heavy rains in Scotland during the day, and considerable quantities in other parts of our Islands and North-Western Europe generally, as well as in the Baltic Provinces.

Temperature low; below 60° over the whole of our Islands, Scandinavia, and the greater part of Russia; between 60° and 70° over Western and Central Europe, with Denmark; above 70° in the South and South-West, and exceeding 80° in some parts of Spain and Algeria. Daily maxima not exceeding 66° at our stations, but rising to 80° and more in the South and South-East of Europe, and to between 100° and 110° over Central Algeria.

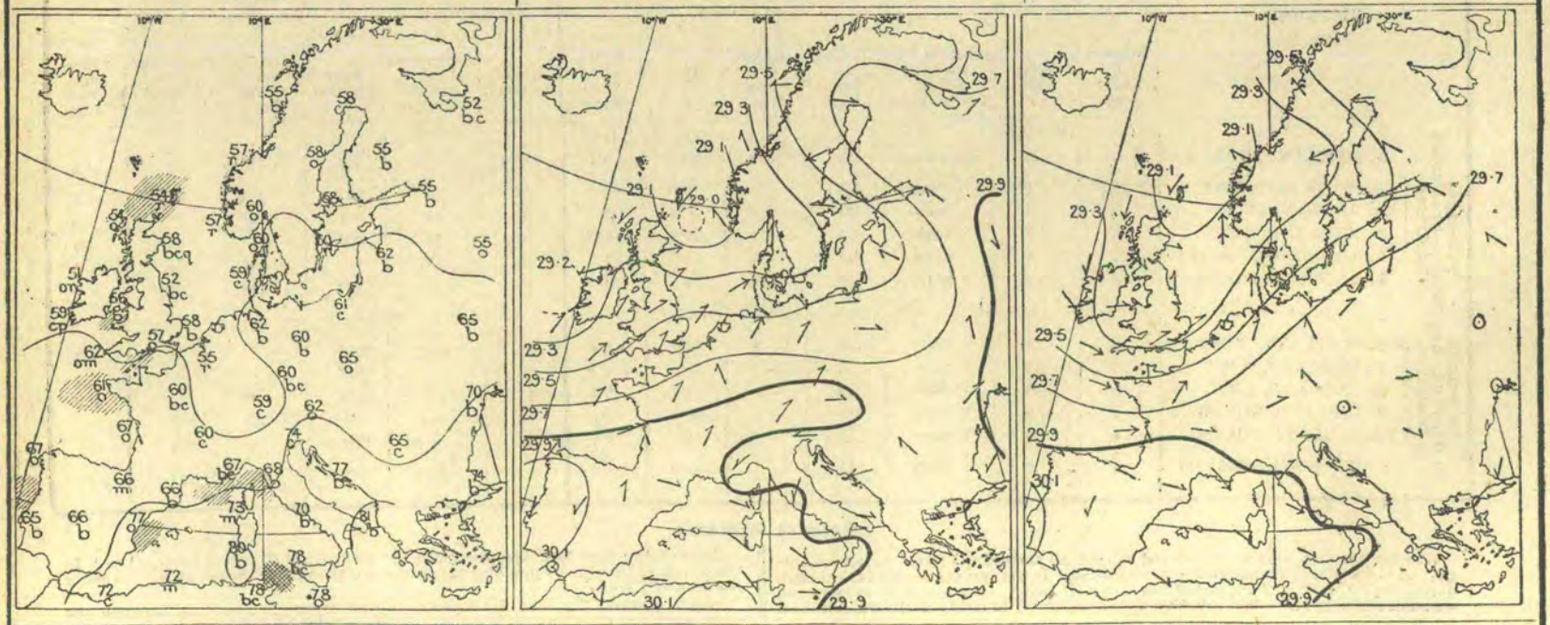
Wind strong to a gale from the North-Westward in the Irish and English Channels, and less strong in Ireland; Westerly over the Bay of Biscay and the west and north of France, South-Westerly to Southerly over Western Germany and the Netherlands, Easterly in Norway and Scotland, very variable over Russia, South-Eastern, and Southern Europe; strong Westerly gales spreading to Holland and the eastern half of the Channel later, and North-Easterly wind increasing greatly in the north of Scotland; but wind in Ireland falling light and backing quickly.

Barometer highest, 30·0 to 30·1 ins. and more, over the Iberian Peninsula, and 29·9 to 30·0 ins. and more over the southern half of Russia; lowest, 29·1 ins. and less, in a well-marked depression over the north of England, and 29·5 ins. and less, over the extreme north of Russia. Both disturbances moving northwards later, but a new one approaching our western coasts from the Atlantic.

Wednesday, 21st August.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather unsettled and changeable over the British Islands and the whole of North-Western Europe, fine over the Eastern, South-Eastern, Southern, and South-Western countries. Rain in all parts of the British Isles later (heavy in the North), and also in France and all countries bordering on the North and Baltic Seas; no important change elsewhere.

Temperature little changed as a whole from that of 20th, though varying a little locally: risen over France. Still below 60° in the British Islands, Scandinavia, and over Northern and Central Russia, low in the south of France, but between 70° and 81° on the shores of the Mediterranean generally. Daily maxima again below 70° over the United Kingdom, but exceeding 80° over Spain, Italy, Hungary, and some of the southern parts of France and Germany, and rising to between 100° and 108° over Algeria.

Wind Northerly to Easterly over the northern parts of Scotland and Ireland and in the north-west of Norway, South-Westerly to Westerly over the other parts of North-Western Europe, but blowing less hard than on the 20th, though still strong and squally in many places. Light to moderate from West and South-West over Central Europe; light and variable in the South-West, South, and South-East.

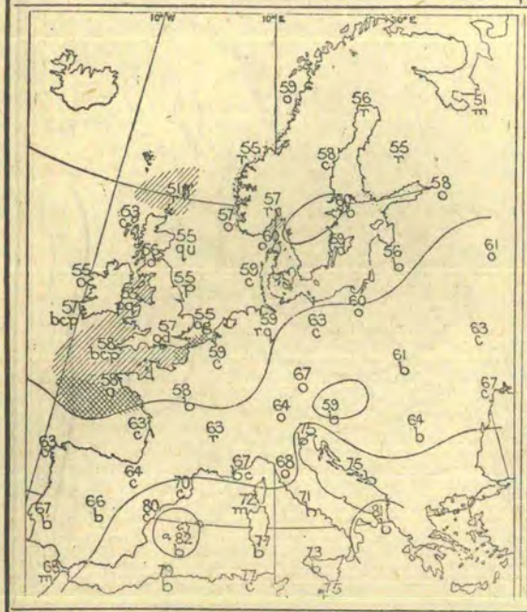
Barometer still highest (30·0 ins. to 30·1 ins. and more) over Spain and the south-west of France, giving way a little in the south of Russia; low and very unsteady over the British Isles and their neighbourhood. Readings about 29·0 ins. in a depression between Scotland and the south of Norway, and below 29·2 ins. in a new one approaching Ireland from the Atlantic. Latter disturbance moving quickly to the eastward and reaching the Lancashire coast with minimum readings below 29·1 ins. by the evening. Pressure still giving way over Southern Russia.

II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 22nd August.

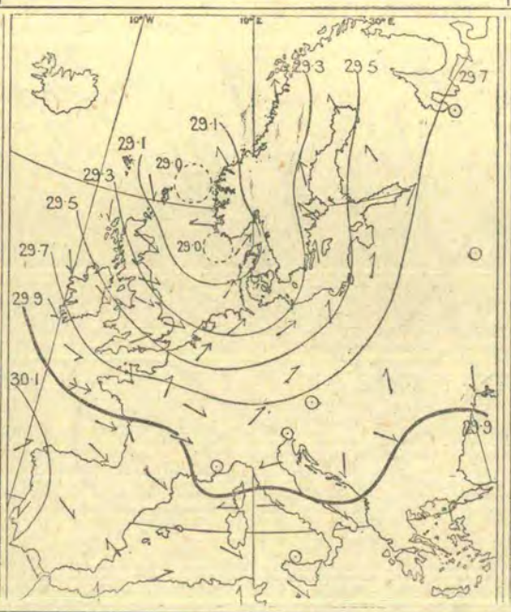
Temperature and Weather.

8 a.m.

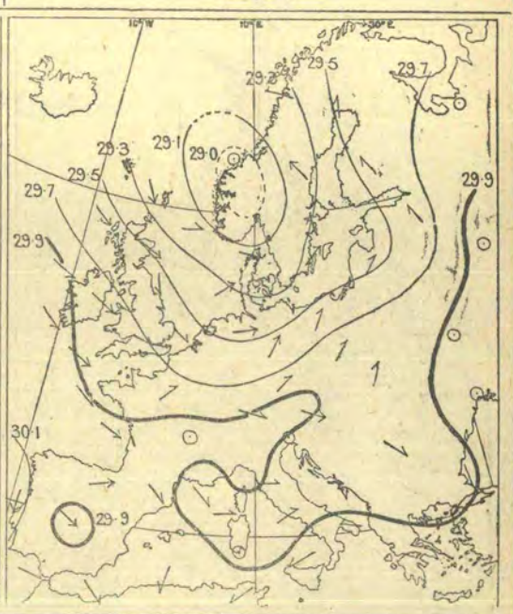


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine and bright over Spain, the Mediterranean, and South-Eastern Europe, cloudy or overcast in all the more northern countries, with rain in many places; rough, squally, and showery over the British Islands, the Channel, and north and north-west of France. Rainfall in latter countries, though general, not heavy except in some parts of the Netherlands, and North Germany, and at Perpignan.

Temperature still low in the North-West and giving way over Central Europe and Poland; below 60° except at the Southern, South-Eastern, and Central stations, and as low as 51° at Sumburgh Head, and Archangel, and 53° at Wick, Stornoway, and Donaghadee. Daily maxima below 60° in many parts of our Islands, and below 70° over the Netherlands and North of France, but rising to 79° at Nice and Perpignan, to 80° and more over Austria and many parts of Italy, to 92° at Madrid, and to between 106° and 110° over Central Algeria.

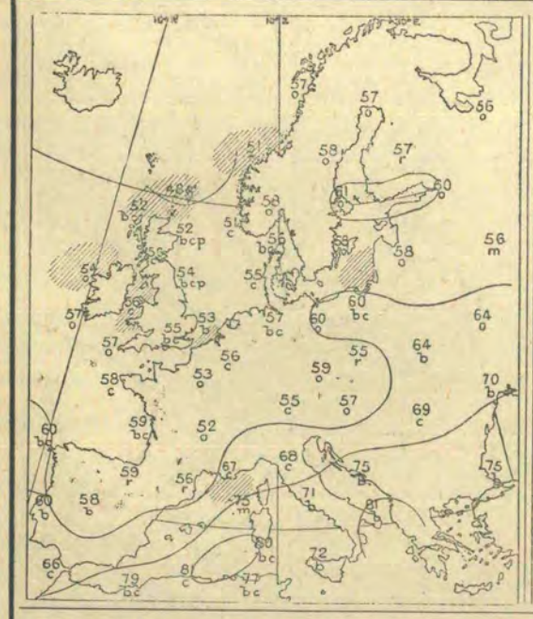
Wind strong and squally—from North-West over the United Kingdom (a gale in places), from South-West in Denmark, the Netherlands, and North Germany, from the Southward in Sweden, and from East-South-East in the Christiania Fjord; very light and variable over Southern, South-Eastern, and Eastern Europe. Moderating in the British Islands later, but becoming more Easterly in some parts of Sweden, and blowing a gale at Stockholm.

Barometer highest over the Spanish Peninsula, the Bay of Biscay, and south-west of France, lowest in a double depression lying over Norway and the mouth of the Skager Rack; gradients rather steep over the British Isles, Germany, and the north of France. Depression moving northwards later, and barometer rising over Western Europe all day.

Friday, 23rd August.

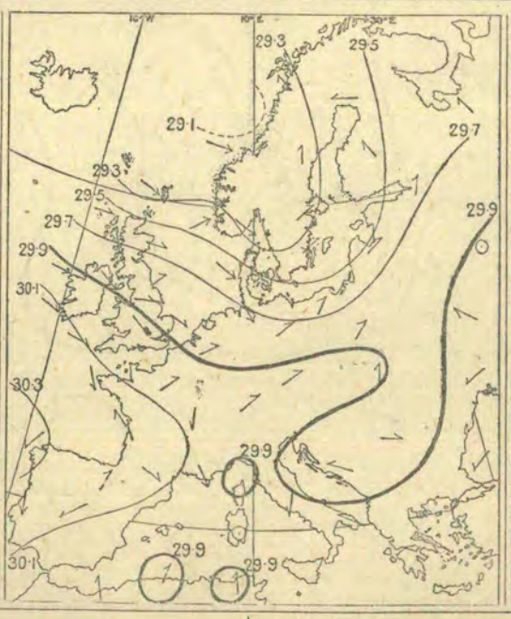
Temperature and Weather.

8 a.m.

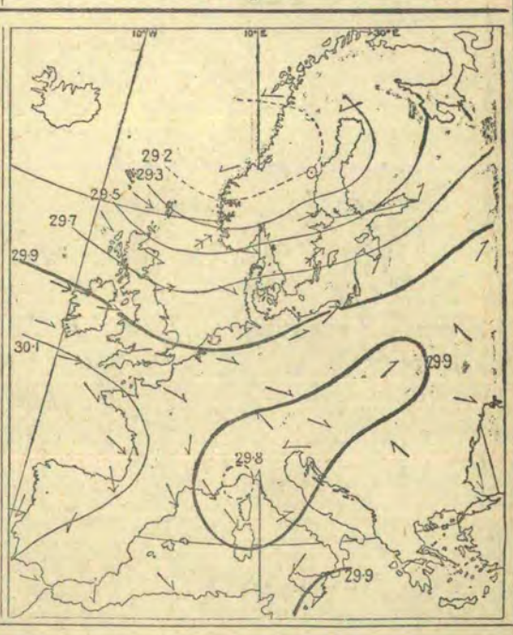


Barometer and Wind.

8 a.m.



6 p.m.



Weather still fine over the Mediterranean and south-east of Europe, unsettled and at times rainy elsewhere; less rough over the British Islands and their neighbourhood, but more rough over the Baltic than on the 22nd. Rainfall heavy at several northern and north-western stations during the day; thunderstorms in the south of France.

Temperature continuing low over the north-western countries, and the cold continuing to spread southwards and eastwards. Morning readings still above 60° in the Baltic Provinces, in Southern Russia and Austria, and continuing very high on the southern shores of the Mediterranean, but as low as 48° at Sumburgh Head, 52° at Lyons, 55° at Munich, and 56° at Perpignan. Daily maxima 60° to 65° over England, below 60° in Ireland and Scotland, and below 70° all over Germany. Exceeding 80° in Hungary and Italy, and still above 100° over Central Algeria.

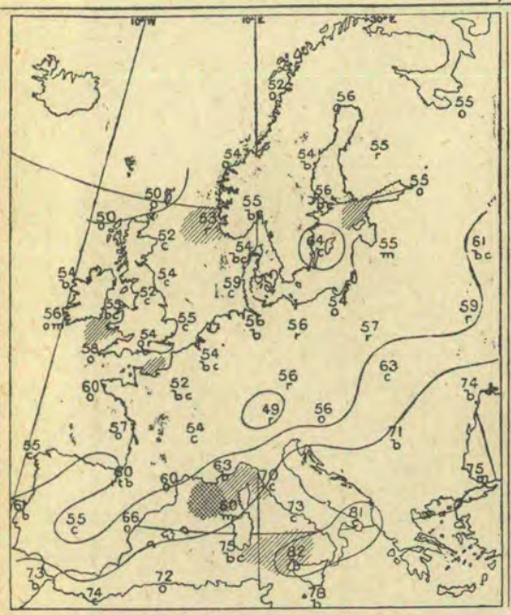
Wind continuing North-Westerly over the British Islands, the Bay of Biscay, and English Channel, Westerly over the North Sea and Netherlands, South-Westerly over Germany, Southerly over the Baltic and Sweden. Moderate to strong generally, and blowing a gale at several Scandinavian stations and at Wick. Light and variable over South-Eastern and Southern Europe, and North-Easterly over the Iberian Peninsula.

Barometer fallen somewhat over the Baltic and Northern Russia, and also in the south of France; risen generally elsewhere. Readings now exceeding 30·0 ins. over the south-east of Russia, and varying from 30·0 ins. to 30·3 ins. and more over Western and South-Western Europe, with the Bay of Biscay. Lowest (29·2 ins. and less) over Scandinavia and off the north-west of Norway, as well as in a small secondary disturbance near the Shetlands. Gradients steep in the north of Scotland and over the North Sea and Baltic. Barometer unsteady in our Islands later, rising over Germany and Western Russia.

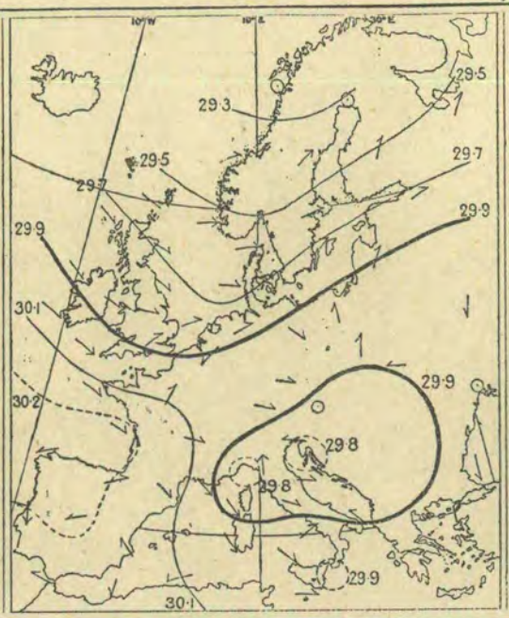
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 24th August.

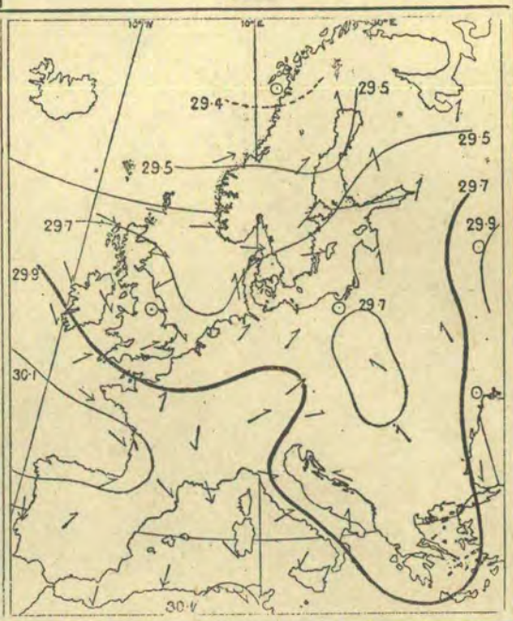
Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



6 p.m.



Weather cloudy and unsettled, except over South-Eastern Europe and on quite the southern shores of the Mediterranean; rain in several places, thunder and lightning at Biarritz. Thunderstorms in many parts of England later, and also at several Austrian stations; rainfall heavy in various parts of Russia, Germany, the Netherlands, and north of France; hail in several places.

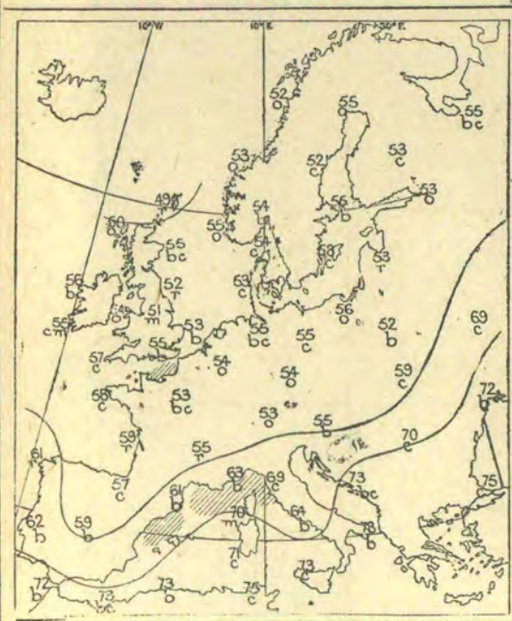
Temperature continuing very low and unseasonable, except over South-Eastern Europe and on the southern shores of the Mediterranean; as low as 49° at Le Mans and Munich, 50° at Limoges, 55° at Corunna and Madrid, and 57° at Toulon, and below 60° over Western, Central, and Northern Europe; continuing above 80° at Sfax (Tunis), Palermo, and Brindisi. Daily maxima, 55° to 68°, over the British Islands, below 70° all over Germany (only 55° at Munich), but above 80° in some parts of Spain and Italy, above 90° at Palermo, and slightly above 100° over Central Algeria.

Wind Westerly to North-Westerly in our Islands, Westerly over the Channel and North Sea, and South-Westerly over the Baltic; moderate to strong in force and squally at times. Light and variable in most other places, but a cyclonic circulation of strong winds prevalent over the Gulf of Genoa and North-Eastern parts of the Mediterranean. Moderating in our Islands and over the Baltic later.

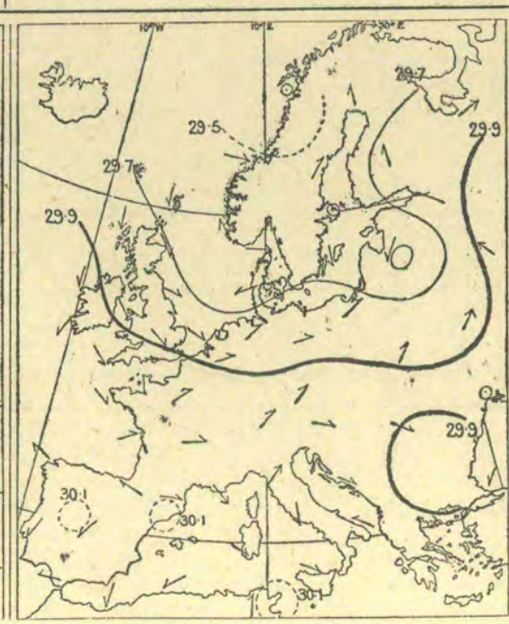
Barometer still highest over Western and South-Western Europe and the Bay of Biscay, and somewhat high over Southern Russia also; lowest over Lapland and the northern parts of Scandinavia. Depression recently noted over Scandinavia becoming filled up, but new system appearing over Poland later, then growing deeper and moving northwards. Complex depression over Gulf of Genoa and the northern parts of the Adriatic.

Sunday, 25th August.

Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



6 p.m.

Weather, though still cold and unsettled over Western and Northern Europe, with rain in several places, inclined to improve in the British Islands. Slight rains at our northern and eastern stations during day, and more considerable falls in various parts of Russia, Austria, Germany, Denmark, the Netherlands, and at Paris. Thunderstorms in some parts of Germany.

Temperature now given way over Algeria and Italy, though still considerably above 70° in the morning at several stations in both countries, and rather above 70° on the shores of the Black Sea. Very cold for time of year over Europe as a whole. Daily maxima exceeding 80° in Spain and at the extreme southern and south-eastern stations in Europe only; 106° again reached at Laghouat (Algeria), but only 79° at Algiers.

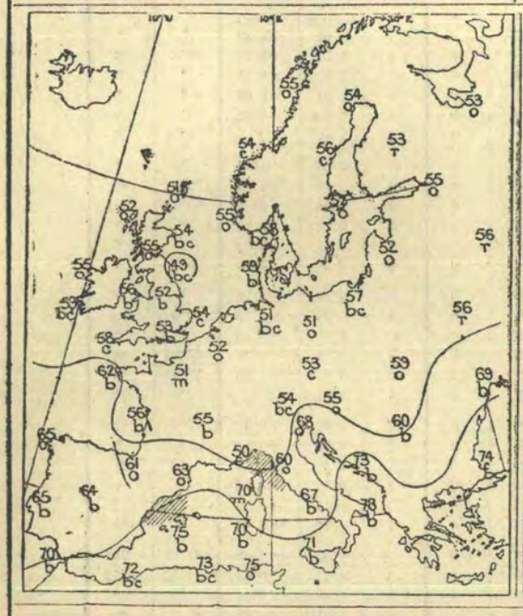
Wind light to moderate generally; North-Westerly over the British Islands and their neighbourhood, South-Westerly over Germany, very variable elsewhere. Cyclonic circulation of light winds over the Baltic Provinces. Latter system soon dying out, while North-Westerly winds freshened somewhat in the West and North-West of the United Kingdom.

Barometer rising very generally in the West and North. Now highest over the Atlantic, whence a ridge extended eastwards over the southern parts of France and Germany; rather high over Central Russia also. Lowest (29·5 ins. and less) over Lapland and the northern parts of Scandinavia and in a small well-formed depression over the Baltic Provinces. Readings over Spain, the Mediterranean, and South-Eastern Europe rather irregular. Barometer rising in our Islands all day, and depression near Riga filling up completely.

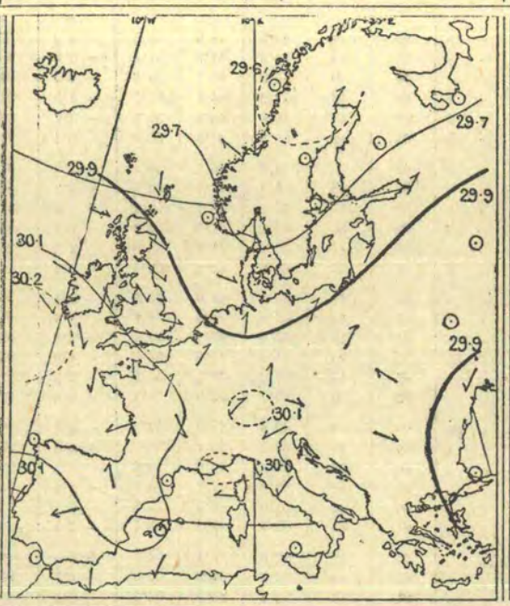
II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 26th August.

Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**

Weather dull and unsettled over Northern, Eastern, and Central Europe, and also in the south of France; fair or fine in the south-east and south-west, and on the southern shores of the Mediterranean. Showers experienced at our northern and eastern stations during the day, and larger falls in several parts of Northern, Eastern, and Central Europe. General condition of weather improving over the British Isles.

Temperature low generally, especially during the night. Morning readings below 60° except in the extreme south-east, south, and south-west, and daily maxima not exceeding 65° over the British Isles and North Germany, but rising to 70° and more over Austria, to 80° and more over Spain and the southern parts of Italy, as well as on the Algerian coasts, and to 100° and more over Central Algeria.

Wind light to moderate generally; Westerly to North-Westerly in our Islands, South-Westerly over North Germany, Southerly over the Baltic, variable elsewhere. Wind backing slowly to the Westward in Ireland later; no material change elsewhere.

Barometer rising all over Northern and Western Europe. Readings highest over France, the Bay of Biscay, north of Spain, and the south-west of Ireland, and somewhat high over Central Russia; lowest over Lapland and the north of Scandinavia, but gradients slight everywhere. Anticyclone off our south-western coasts, tending to move south-eastwards later, but pressure not giving way materially on our western coasts.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟹ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

The weather at the commencement of this week was windy, cold, and very rainy over the United Kingdom and Northern Europe, fine and warm in the south-west, south, and south-east, the unsettled weather being caused by disturbances which passed immediately over our Islands from the south-westward. The barometer then rose in our Islands, very cold north-westerly winds set in, and spreading south-eastwards carried the cold weather to all but the most southern parts of the Mediterranean, and even there the thermometer fell decidedly. On the morning of the 26th the thermometer was below 60° over the whole of Northern, Western, Central, Eastern, and some parts of Southern Europe. On this date, however, an improvement began to take place over the British Islands.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.)								Rainfall.			Bright Sunshine.	
		Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
August 19th, 1889	Scarborough	—	—	—	—	—	—	—	—	—	—	—	23·9	23

III.—DATA from which the SUMMARY on page 199 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	d	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ⚓	55	40	53·6	46·0	49·6	− 4·2	53	0	7	4·04	+3·29	*	*
	Stornoway ⚓	58	43	56·0	47·3	51·4	− 3·0	66	0	7	1·79	+0·96	26·2	26
	Wick ⚓	60	40	55·9	46·1	50·7	− 4·0	61	0	7	2·87	+2·33	*	*
	Lairg ⚓	59	42	55·9	46·1	50·7	− 3·5	61	0	6	1·34	+0·68	*	*
	Glencarron ⚓	59	43	54·8	46·4	50·3	− 3·7	58	0	7	2·00†	+0·53	4·1	4
	Fort Augustus ⚓	61	42	58·0	47·0	52·2	− 3·4	71	0	7	1·87†	?	*	*
1. SCOTLAND, E.	Nairn ⚓	62	46	58·3	49·3	53·5	− 2·2	81	0	6	1·76	+1·13	*	*
	Aberdeen ⚓	65	43	59·7	48·7	53·9	− 1·8	83	0	6	0·85	+0·13	36·0	36
	Braemar ⚓	59	41	55·9	45·1	50·2	− 2·5	57	0	7	0·96	+0·05	13·3‡	13‡
	Ochtertyre ⚓	69	39	63·3	45·6	53·9	− 1·6	83	0	3	0·11	−0·71	*	*
	Leith ⚓	68	44	63·9	48·9	56·0	− 1·2	98	0	5	0·51	−0·07	*	*
	Marchmont ⚓	62	42	60·0	45·9	52·5	− 2·4	74	0	5	0·43	−0·36	29·3	29
2. ENGLAND, N.E.	Alnwick Castle ⚓	63	44	59·3	47·0	52·8	− 3·1	76	0	5	0·59	−0·19	*	*
	Durham ⚓	64	43	61·8	46·4	53·6	− 2·9	81	0	5	0·85	+0·22	28·0	28
	Shields ⚓	62	47	59·4	49·4	54·1	− 2·6	85	0	5	0·52	−0·10	*	*
	Scarborough ⚓	65	44	61·2	47·5	53·9	− 4·0	83	0	7	0·99	+0·39	25·9‡	26‡
	York ⚓	67	43	63·6	49·1	55·9	− 2·5	97	0	6	0·97	+0·42	28·3	29
	Spurn Head ⚓	65	49	60·7	52·0	56·1	− 2·6	99	0	7	0·41	?	*	*
3. ENGLAND, E.	Hillington ⚓	65	39	62·4	48·3	54·9	− 4·7	90	0	7	0·91	+0·32	26·8	27
	Yarmouth ⚓	64	45	61·4	50·7	55·7	− 4·6	96	0	6	0·63	+0·13	*	*
	Geldeston ⚓	68	42	63·9	48·9	56·0	− 4·4	98	0	6	0·44	+0·01	30·2	31
	Cambridge ⚓	65	42	63·9	47·7	55·6	− 5·4	95	0	7	0·70	+0·18	?	?
	Rothamsted ⚓	66	44	61·9	49·5	55·3	− 5·1	93	0	5	0·74	+0·15	*	*
	Ingatestone ⚓	65	44	62·9	49·8	56·0	− 5·3	98	0	7	0·90	+0·42	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall) ⚓	66	42	62·0	48·1	54·6	− 4·9	88	0	5	0·55	−0·02	21·6‡	22‡
	Loughborough ⚓	65	44	62·7	49·9	55·9	− 4·1	97	0	6	1·24	+0·63	24·5‡	25‡
	Cheadle ⚓	61	42	59·2	46·9	52·7	− 6·5	75	0	6	0·68	−0·16	*	*
	Churchstoke ⚓	63	38	59·7	44·9	51·9	− 7·3	69	0	4	1·01	+0·38	24·3	25
	Hereford ⚓	67	39	64·2	48·1	55·7	− 4·8	96	0	3	0·18	−0·43	*	*
	Cirencester ⚓	67	39	62·1	47·1	54·2	− 6·1	85	0	5	1·46	+0·71	29·4	30
	Oxford ⚓	65	43	62·9	50·0	56·1	− 4·9	99	0	5	0·82	+0·29	26·8	27
5. ENGLAND, S.	London ⚓	66	44	64·6	51·3	57·6	− 4·2	109	0	6	0·71	+0·19	25·6‡	26‡
	Strathfield Turgiss ⚓	65	40	63·5	50·1	56·4	− 4·4	101	0	5	1·09	+0·57	*	*
	Dungeness ⚓	66	45	65·3	52·7	58·6	− 2·4	116	0	4	0·44	−0·06	*	*
	Hastings (St. Leonard's) ⚓	65	47	63·6	52·7	57·8	− 3·2	111	0	4	0·45	−0·13	38·6	39
	Southampton ⚓	68	46	65·9	51·9	58·5	− 2·9	116	0	5	0·44	−0·16	39·0	40
	Hurst Castle ⚓	66	46	64·0	53·9	58·7	− 2·1	117	0	5	0·84	+0·26	*	*
	Stowell ⚓	64	45	61·3	49·9	55·3	− 4·6	93	0	5	1·14	?	37·3‡	38‡
6. SCOTLAND, W.	Laudale (Loch Sunart) ⚓	60	41	57·6	48·3	52·7	− 3·9	75	0	7	0·71†	−0·42	*	*
	Glasgow ⚓	62	45	60·0	48·5	53·9	− 2·3	83	0	5	0·34	−0·55	34·3	34
	Ardrossan ⚓	61	45	60·0	50·6	55·0	− 1·7	91	0	7	0·37	−0·55	*	*
	Glenlee ⚓	61	42	58·0	46·3	51·8	− 3·7	69	0	5	0·32	−0·73	*	*
	Douglas (Isle of Man) ⚓	62	45	59·9	47·9	53·5	− 4·0	81	0	7	0·97	+0·12	23·6	24
7. ENGLAND, N.W.	Newton Reigny (Penrith) ⚓	61	42	58·8	46·6	52·3	− 4·6	72	0	7	1·08	+0·35	23·2	26
	Barrow-in-Furness ⚓	61	45	59·6	51·7	55·4	− 4·2	94	0	6	1·22	+0·39	*	*
	Stonyhurst ⚓	61	45	58·1	48·9	53·2	− 5·6	78	0	7	1·53	+0·47	23·6	24
	Blackpool ⚓	62	50	61·1	52·3	56·4	− 3·5	101	0	5	0·86	+0·17	29·7	30
	Manchester ⚓	61	43	59·8	48·4	53·6	− 5·9	81	0	6	1·88	+1·09	*	*
	Liverpool Obsy (Bidston) ⚓	61	50	59·7	50·4	54·8	− 5·0	90	0	6	1·69	+1·04	*	*
	Llandudno ⚓	63	51	60·5	52·2	56·1	− 3·9	99	0	6	0·62	0·00	24·5	25
	Holyhead ⚓	63	49	61·3	52·3	56·5	− 2·8	102	0	4	0·60	−0·08	*	*
8. ENGLAND, S.W.	Llandovery ⚓	65	41	62·9	45·9	53·9	− 5·3	83	0	7	1·12	0·09	*	*
	Pembroke ⚓	61	51	59·0	52·9	55·8	− 2·7	97	0	5	0·41	−0·28	47·6	49
	Arlington (N. Devon) ⚓	63	44	60·4	47·3	53·5	− 5·2	81	0	5	1·40	+0·15	*	*
	Cullompton ⚓	66	41	63·9	47·9	55·4	− 5·0	94	0	5	1·18	+0·50	40·0	41
	Falmouth ⚓	63	50	60·9	51·9	56·1	− 4·4	99	0	4	1·18	+0·29	54·9	57
	Plymouth ⚓	67	49	63·5	53·3	58·1	− 3·4	113	0	6	0·78	+0·09	42·5	44
	Prawle Point ⚓	68	47	62·1	51·0	56·2	− 2·5	99	0	5	0·55	?	*	*
9. IRELAND, N.	Malin Head ⚓	67	48	58·6	50·4	54·3	− 2·4	86	0	6	0·38	?	*	*
	Londonderry ⚓	61	45	58·7	47·7	52·9	− 4·6	76	0	7	0·95	+0·11	*	*
	Mullaghmore ⚓	60	47	58·9	51·0	54·7	− 3·8	89	0	6	1·01	+0·22	*	*
	Belmullet ⚓	68	47	59·0	49·9	54·2	− 3·1	85	0	6	1·29	?	*	*
	Markree Castle ⚓	60	43	58·4	46·4	52·0	− 6·0	70	0	7	1·32	+0·51	23·7	27
	Brookeborough ⚓	62	43	58·1	45·9	51·6	− 6·7	67	0	6	0·76	?	*	*
	Armagh ⚓	62	45	59·3	46·5	52·5	− 5·7	74	0	6	1·21	+0·59	21·0	21
	Donaghadee ⚓	62	45	59·4	50·6	54·7	− 2·5	89	0	5	0·59	−0·11	*	*
	Edgeworthstown ⚓	63	43	59·9	45·0	52·0	− 6·4	70	0	7	0·63	−0·15	*	*
10. IRELAND, S.	Dublin ⚓	63	46	61·0	48·9	54·6	− 4·1	88	0	6	0·59	−0·05	32·2	33
	Parsonstown ⚓	64	41	61·6	47·7	54·2	− 4·3	85	0	4	0·54	−0·26	39·3	40
	Kilkenny ⚓	63	42	61·3	47·1	53·8	− 4·7	83	0	4	1·46	+0·71	*	*
	Waterford ⚓	67	43	65·1	46·3	54·1	− 4·8	85	0	3	0·43	−0·42	*	*
	Roche's Point ⚓	62	47	60·9	50·4	55·3	− 4·3	93	0	3	1·33	+0·48	*	*
	Valencia ⚓	63	51	61·6	52·3	56·7	− 2·1	103	0	5	1·40	+0·33	34·1	35
	Killarney ⚓	62	42	60·3	48·0	53·8	− 5·4	83	0	5	0·95	?	*	*
	Foynes ⚓	62	46	60·2	50·4	55·0	− 3·2	91	0	3	0·79	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's) ⚓	64	53	61·1	54·3	57·2	− 3·6	106	0	4	0·41	−0·17	*	*
	Jersey ⚓	69	53	64·0	55·9	59·7	− 2·0	124	0	6	0·95	+0·42	51·7	53

Stations marked ⚓ are in connection with the Royal Meteorological Society, and those marked ⚓ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

(OFFICIAL COPY.)

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 35.] *Third Series.* WEEK ENDING MONDAY, 2ND SEPTEMBER, 1889. [*Price* 6*d.* [*Annual subscription, post paid*, £1 10*s.* 0*d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1868–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

DISTRICTS. (See p. 210.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
	°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	70	42	61·0	48·6	54·4	1 above.	87	+ 3	0	0	1580	+198	514	+ 4
1. SCOTLAND, EAST	73	35	63·8	48·6	55·8	1 above.	97	− 4	0	0	1845	+ 40	543	+ 5
2. ENGLAND, N.E.	73	44	64·2	51·6	57·5	1 above.	109	− 3	0	0	1959	+ 31	489	+ 7
3. ENGLAND, EAST	82	42	70·9	50·1	59·9	0 (average).	125	0	0	0	2238	0	619	+113
4. MIDLAND COUNTIES	82	41	70·1	49·0	58·9	0 (average).	118	− 4	0	0	2219	− 9	584	+ 60
5. ENGLAND, SOUTH	83	41	71·3	51·5	60·8	1 above.	132	− 1	0	0	2445	+ 38	448	+ 75
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	70	37	61·5	50·2	55·5	0 (average).	95	−10	0	0	1958	+ 65	375	− 23
7. ENGLAND, N.W.	73	42	64·6	51·9	57·9	1 below.	111	− 2	0	0	2072	+ 60	382	− 1
8. ENGLAND, S.W.	80	41	67·4	52·1	59·3	1 above.	121	− 1	0	0	2236	− 45	321	+ 88
9. IRELAND, NORTH	73	38	63·0	51·3	56·8	0 (average).	104	− 2	0	0	1993	+ 16	297	− 53
10. IRELAND, SOUTH	72	40	64·4	51·9	57·8	0 (average).	111	− 2	0	0	2222 *	− 11	225	− 14
— CHANNEL ISLANDS	78	47	67·9	55·1	61·1	0 (average).	134	+ 2	0	0	2523	+ 83	77	− 16

Rainfall.

DISTRICTS. (See p. 210.)	For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.
		10ths of In.				Ins.	Ins.
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	3	9	2 more.	164	+17	26·8	+0·3
1. SCOTLAND, EAST	3	3	4 less.	133	+ 6	18·3	−2·3
2. ENGLAND, N.E.	2	2	4 less.	122	0	16·5	−1·0
3. ENGLAND, EAST	1	7	1 more.	127	+ 3	17·9	+1·7
4. MIDLAND COUNTIES	1	1	6 less.	118	− 4	19·9 *	+1·2
5. ENGLAND, SOUTH	1	2	4 less.	123	+ 6	16·4	−0·8
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	4	9	3 less.	139	+ 3	26·9	−2·9
7. ENGLAND, N.W.	1	1	7 less.	123	0	20·4	−1·1
8. ENGLAND, S.W.	2	2	8 less.	126	− 7	22·5	−4·3
9. IRELAND, NORTH	4	7	1 less.	154	+ 1	25·4	+2·4
10. IRELAND, SOUTH	2	2	6 less.	137	− 5	24·7	−0·7
— CHANNEL ISLANDS	3	3	4 less.	133	−10	17·3	−2·3

Bright Sunshine.

DISTRICTS. (See p. 210.)	For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	19	19	768	−186	23	− 5
1. SCOTLAND, EAST	26	27	983	−130	30	− 3
2. ENGLAND, N.E.	25	26	916	− 88	28	− 3
3. ENGLAND, EAST	57	62	1031 *	−191	32	− 6
4. MIDLAND COUNTIES	45	47	961	−127	30	− 4
5. ENGLAND, SOUTH	50	53	1010	−163	31	− 5
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	24	24	1037	− 18	32	0
7. ENGLAND, N.W.	22	23	998	− 58	31	− 1
8. ENGLAND, S.W.	45	48	1178	− 81	36	− 3
9. IRELAND, NORTH	22	23	879	−101	27	− 3
10. IRELAND, SOUTH	23	24	1095	− 22	34	0
— CHANNEL ISLANDS	57	60	1318	−178	41	− 6

General Remarks.

Weather has been fine and dry generally over England, but less settled over Ireland and Scotland, where rain has fallen occasionally. At the end of the period severe thunderstorms were experienced over England, and also at some of the Irish stations.

Temperature has been considerably higher than of late, it has exceeded the mean in most parts of Great Britain, and just equalled it in Ireland. The highest of the maxima, which were registered on 30th August, ranged from 70° to 73° over Scotland, from 72° to 73° in Ireland, and from 73° to 83° over England. The lowest of the minima, which were recorded on somewhat irregular dates, varied from 35° in "Scotland, E.", 37° in "Scotland, W.", and 38° in "Ireland, N.", to 44° in "England, N.E." and 47° in the "Channel Islands." During the greater part of the period the minima were high for the time of year.

Rainfall has been rather more than the mean in "Scotland, N." and "England, E.", but less in all other districts. At most of the English stations the weather was rainless until the evening of the 2nd September.

Bright sunshine shows an increase, especially over England. The percentage of the possible amount of duration ranged from 19 to 27 in the west and north, to 53 in "England, S.", 60 in the "Channel Islands", and 62 in "England, E."

Barometer and Wind.—During the earlier part of the period the barometer was highest in the southern and lowest in the northern parts of our Islands, and the wind was consequently Westerly or South-Westerly, and generally light or moderate in force. A well marked depression passed by our extreme north-western coasts on Tuesday, but as the week progressed an anticyclone advanced from the eastward and moved over Ireland and all the more northern parts of Great Britain, attended by light variable airs in the northern parts of the Kingdom and Easterly airs in the south. At the end of the period this lay over the North Sea, while some shallow depressions moved to our south-western and south-eastern districts from the southward causing the severe thunderstorms noted above.

* This value has been altered owing to the receipt of further information.

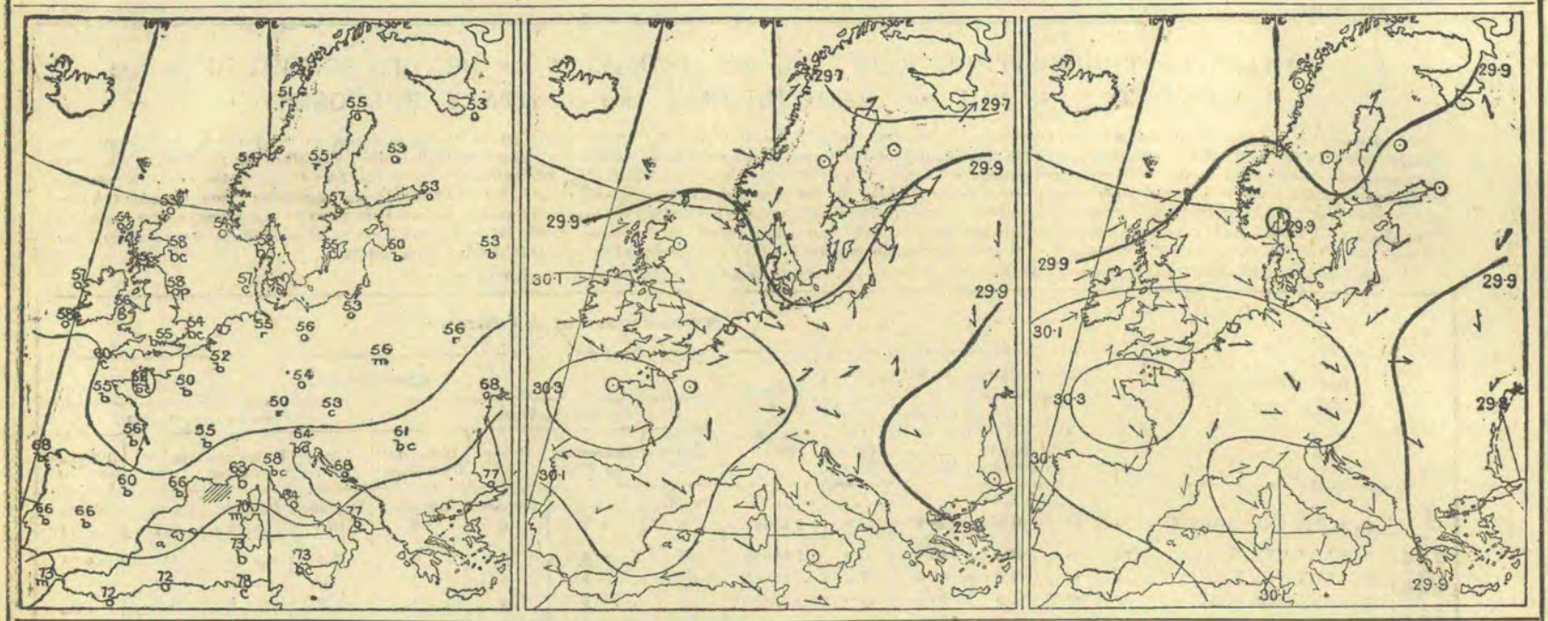
59923. 350.—9/89. Wt. 36. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 27th August.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine and bright over the Mediterranean, southern, and western Europe; unsettled and variable elsewhere, with rain in places. A good deal of rain over Austria, Germany, the Baltic, and Northern Europe later, and heavy falls in the Shetlands, Hebrides, and north of Scotland, as well as in some parts of Russia, but weather fair on our western and southern coasts.

Temperature in morning above 70° over the southern and central parts of the Mediterranean only; very low over central France (below 50° at several stations) and less low over Germany. Inclined to rise over the United Kingdom, where, however, the daily maxima did not reach 70°. Maxima 70° to 80° over France, 88° at Lisbon, and upwards of 80° in several parts of Italy; exceeding 100° over Central Algeria, the maximum being 104° at Laghouat.

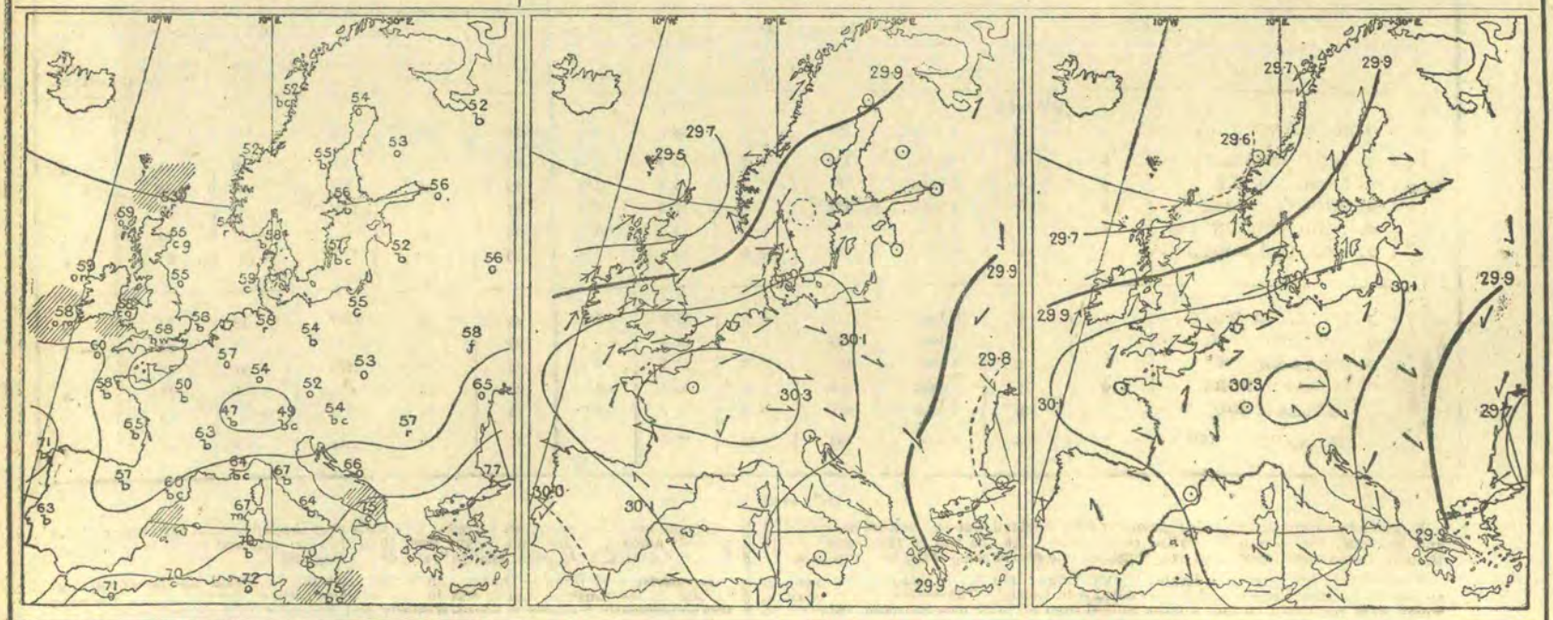
Wind light to moderate generally; South-Westerly to Westerly over the British Islands North-Westerly over the North Sea and English Channel, North-Easterly over the Bay of Biscay and Spain; Westerly in Germany, Southerly over the Baltic, variable, but chiefly Northerly over South-Eastern Europe. South-Westerly wind becoming general in our Islands later, and freshening in the west.

Barometer highest, 30·20 ins. to about 30·35 ins. in an anticyclone lying over France, the Bay of Biscay, and southern parts of our Islands, lowest over Northern Europe, and rather low over the Black Sea and Southern Russia. Gradients moderate to slight, and decreasing. Barometer falling in Ireland later and new depression approaching our north-western coasts from south-westward. Anticyclone moving eastwards and spreading over Northern Europe.

Wednesday, 28th August.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather very fine over southern, south-western, and western Europe, including the southern half of England; continuing dull and changeable over the northern and eastern countries, but with less rain than of late; becoming rough, squally, and wet in the west and north of our Islands. Heavy rain at Belmullet and Malin Head later, and also on the eastern shores of the North Sea, as well as in Germany and Austria and several parts of Russia.

Temperature very low over France and Germany—below 50° in several places,—but still showing a tendency to rise in our Islands. Exceeding 70° at Constantinople and on the southern and western shores of the Mediterranean only. Daily maxima rising to 70° or 71° in several parts of Great Britain later, and rather higher over France, but much below 70° over Germany; exceeding 80° in several parts of Italy, and again slightly exceeding 100° in some parts of Central Algeria.

Wind back to South-West over the United Kingdom, and to South in the Shetlands and south of Norway; blowing strongly in the west and north, and attaining the force of a gale in the Hebrides and extreme north-west of Ireland. Light from West in North Germany, and strong from same quarter in Austria; very light from the Northward over Russia, and from the Eastward over Southern Europe and the west of France; Southerly wind spreading to the Baltic later, and South-Westerly wind, moderating in force, over England. Northerly breeze freshening on eastern shores of Mediterranean.

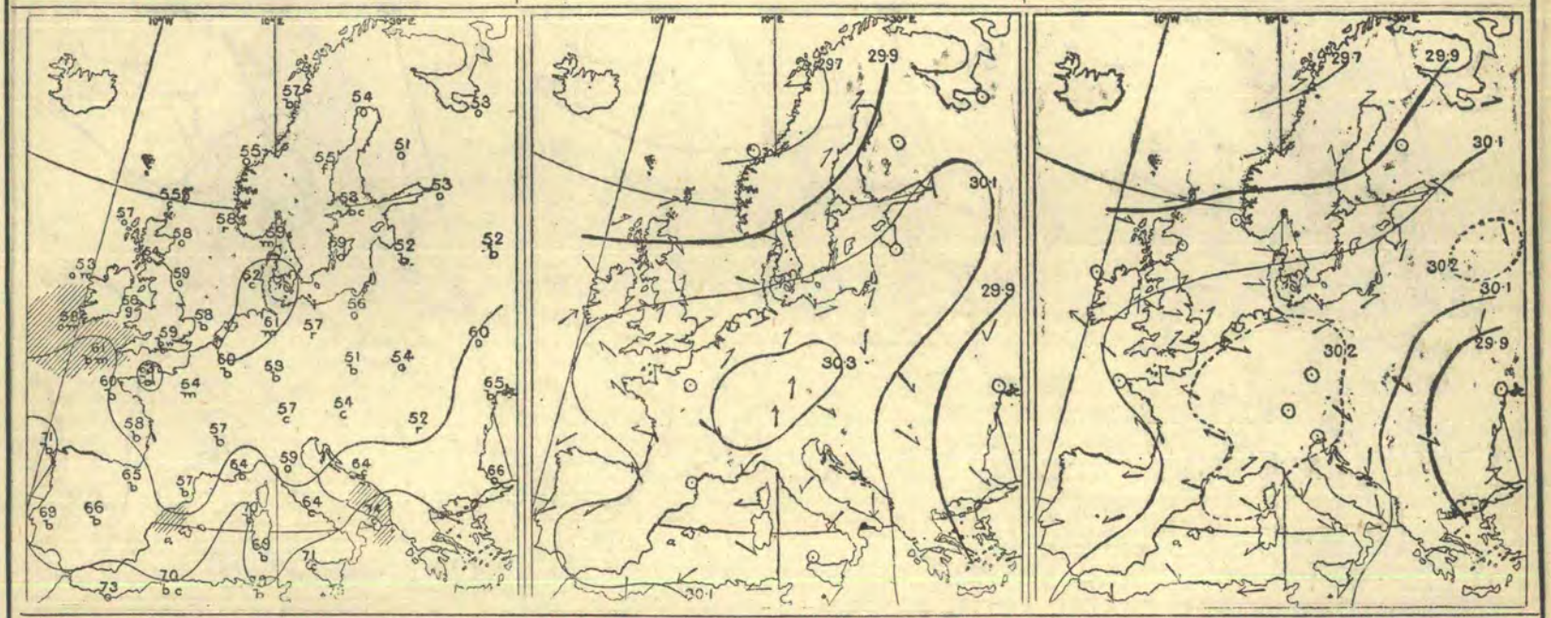
Barometer still highest (30·20 ins. to about 30·35 ins.) in anticyclone lying over France, Germany, and the south of England; lowest (29·5 ins. and less) in a depression, the centre of which lay off the north of Scotland, and somewhat low (29·8 ins. and less) over the Black Sea and Southern Russia. Depression in north-west moving north-eastwards later, that over the Black Sea beginning to grow deeper.

II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 29th August.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather finer over the British Islands than of late, though still dull in the west, rainy in the north-we t, and rather hazy generally. Very fine over Spain, France, and Western Germany, but dull and unsettled over south-eastern Europe, with rain in places. Rainfall considerable in extreme north-west later, but weather over France and England very fine and warm. Considerable rain in Austria-Hungary, and some on shores of Black Sea.

Temperature increasing unsteadily over western and central Europe; none of the morning readings below 50° now; values of 70° and more still confined to the western and southern shores of the Mediterranean. Daily maxima ranging from 70° to 77° over England, and touching 91° at Biarritz and Rochefort. 80° exceeded over Southern Italy and at Constantinople; 100° not reached over Algeria, the highest maxima reported being 99°, at Algiers and Biskra.

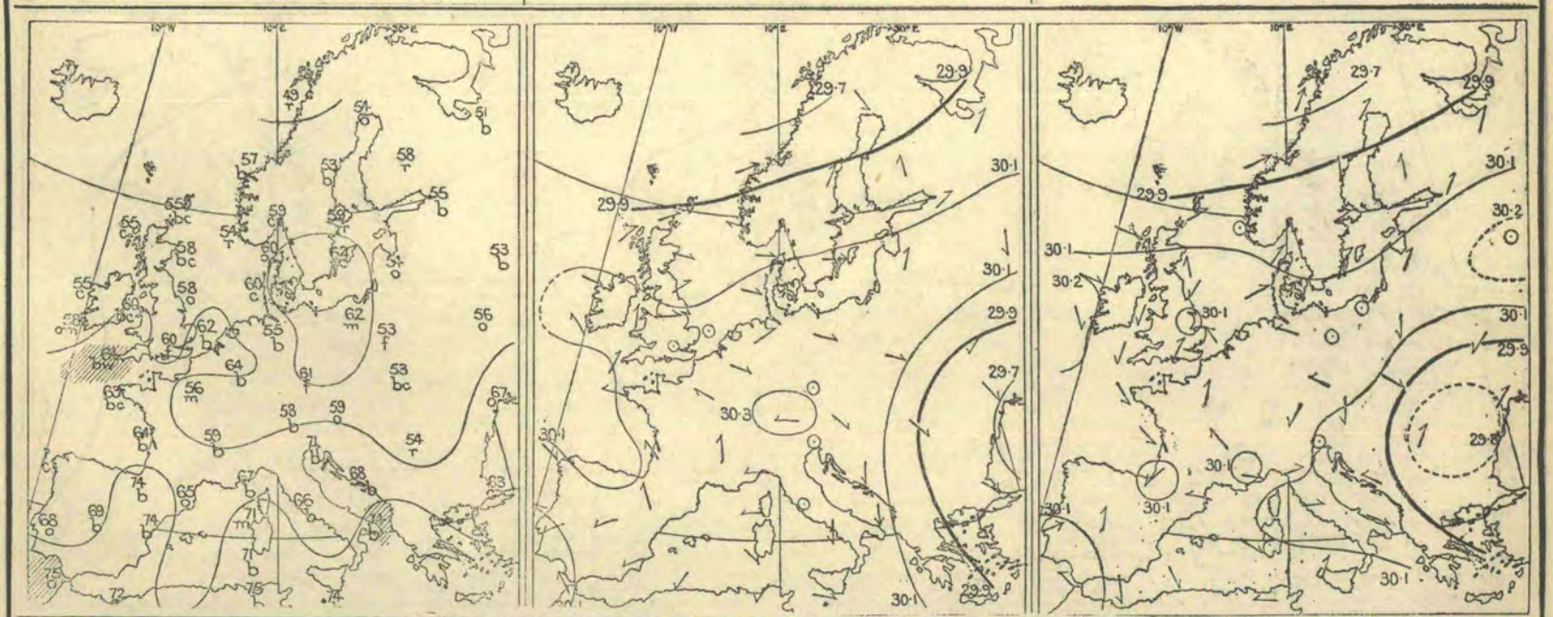
Wind South-Westerly to Southerly over the whole of North-Western and Northern Europe, light to strong in force; North-Easterly, light, over Spain, Easterly and light over the south and west of France, Westerly, fresh, in Austria, and Northerly over Russia and Italy. Falling light over the British Islands and their neighbourhood later, but backing to South-East at Valencia and blowing freshly.

Barometer highest (30·20 to 30·35 ins.) over France, Germany, Austria, and the northern parts of the Mediterranean; lowest, 29·7 ins. and less, off the north-west of Norway; depression noticed in north-west yesterday passing steadily away to northward, that over the Black Sea showing no material change. Barometer rising over British Islands, Northern Europe, and Central Russia, beginning to fall on the Atlantic coasts of France and Spain.

Friday, 30th August.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather very fine over the British Isles (as a whole), France, and Germany, but foggy or hazy in many places. Rain in the Hebrides and some parts of northern Europe later, and considerable quantities over Austria, Southern Russia, and on the shores of the Black Sea; very fine weather over Western Europe—sky in most places cloudless.

Temperature (after a cool night) rising fast over Western and North-Western Europe, and to a smaller extent over Southern and South-Eastern Europe also. Morning readings varying greatly in value in different localities—exceeding 65° on the south coast of England, but exceeding 70° at the Mediterranean stations only; as low as 54° at Hermanstadt and 63° at Constantinople. Daily maxima 80° to 85° over England, 86° to 95° over France, but much less high in other parts of Europe, and barely reaching 100° at Laghouat (Algeria).

Wind Westerly to Southerly, fresh or strong over Northern Europe, moderate North-Easterly over Southern Russia, North-Westerly over Hungary, Northerly in Italy. Extremely light and variable over the British Isles, France, and Germany, South-Easterly over the Bay of Biscay. No important change later.

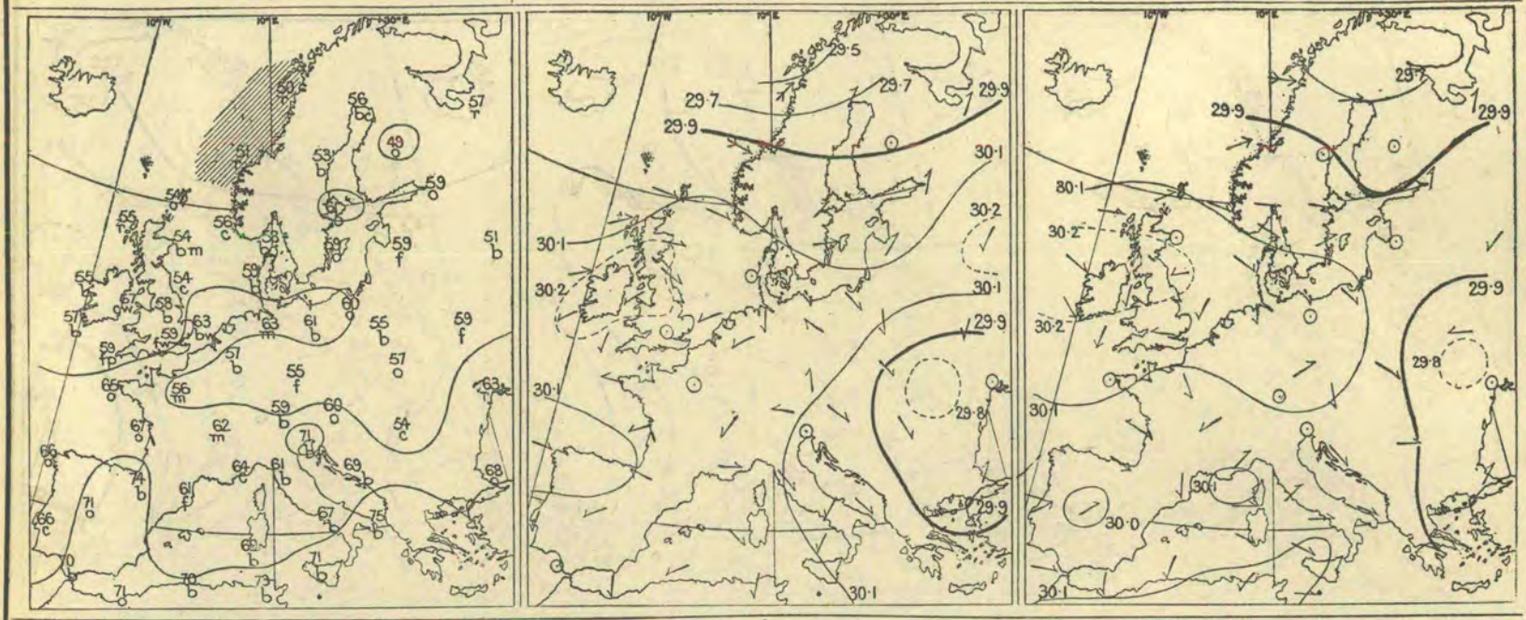
Barometer remaining highest over Southern, Western, and Central Europe, whence a ridge extended eastwards to Central Russia; lowest (29·7 ins. and less) to the North-Westward of Lapland, and also over the Black Sea, where the depression recently noticed was again growing deeper. Latter disturbance becoming well-formed later, and moving westwards to Transylvania. High-pressure area over Europe giving way a little, but a new (small) one appearing off the west of Ireland, and moving eastwards slowly.

II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 31st August.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather continuing fine and bright over Germany, France, and the Mediterranean, foggy or hazy over the greater part of the British Isles, but becoming rainy over Northern Europe, the Hebrides, and the north of Scotland. Overcast, foggy, and rainy over Southern Russia and Hungary, and becoming less settled over Spain. Continuing fine over Western Europe as a whole during day, but rainy in the far North, and also over Southern Russia, with the eastern parts of Hungary.

Temperature changing very fitfully; morning readings below 60° over almost all the northern half of Europe (excepting the Baltic provinces) and in Austria; higher elsewhere, and exceeding 70° on the southern shores of the Mediterranean, as well as over Spain and the extreme west of France. Daily maxima 70° to 79° over Great Britain and Germany, 80° to 86° over Italy, and exceeding 90° over Central Spain and the central parts of Algeria.

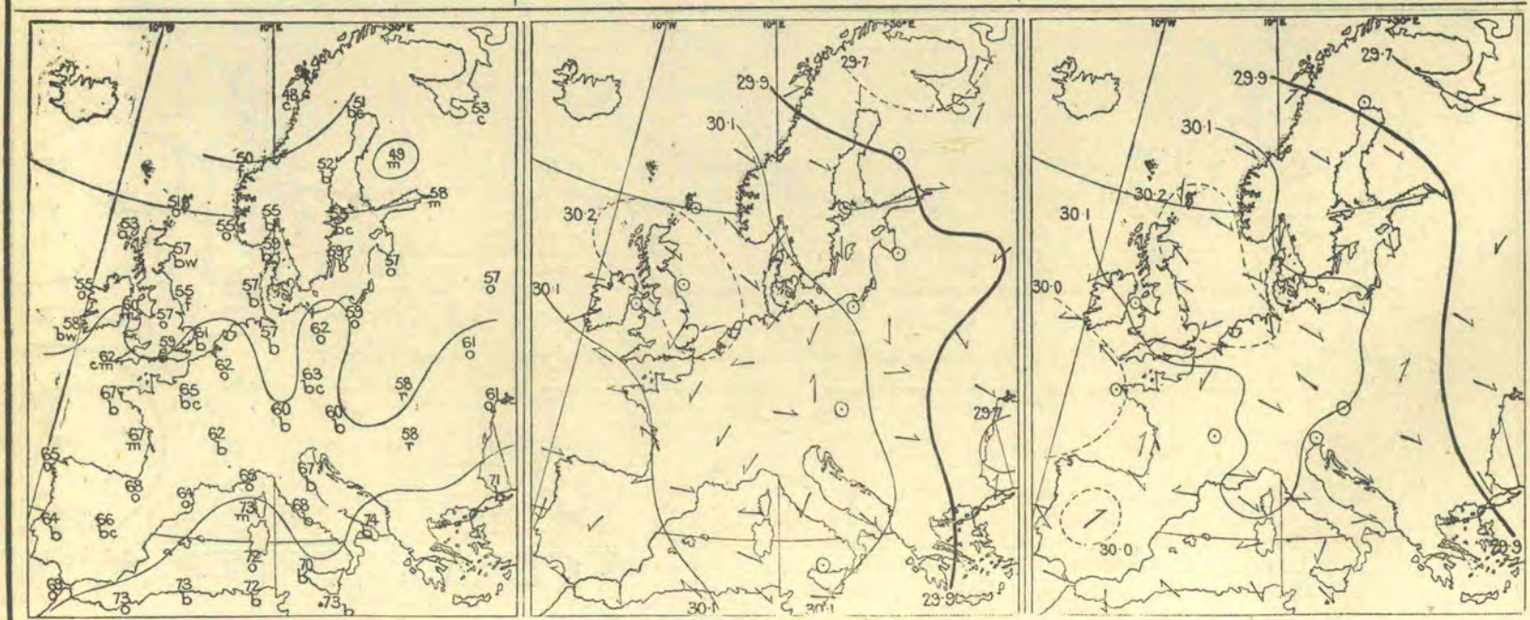
Wind South-Westerly over the Baltic and Northern Europe, moderate in most places, but blowing a gale in the north-west of Norway; very variable over the British Islands and greater part of the Continent; Easterly and light over the Bay of Biscay. Wind veering Westwards over Northern Europe later; no material change elsewhere.

Barometer high (30·1 ins. and more) over Southern, Central, and Western Europe, and exceeding 30·2 ins. over Ireland, the northern half of England, and south of Scotland; low (29·8 ins. and less) over Hungary and south-western Russia, and below 29·6 ins. in the west of Lapland, towards which a new depression was advancing from the eastwards. Local shallow low-pressure area shown over the north of Spain. Disturbances in north and south-east, moving eastwards later, and barometer beginning to fall in west of France and south-west of our Islands.

Sunday, 1st September.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fair over western and central Europe as a whole, but hazy in many places, dull at some stations, but not rainy; dull and unsettled over Russia, rainy in Hungary. Rain later over the extreme northern, eastern, and south-eastern countries; less warm over the British Isles and western Europe than of late, and sky assuming an unsettled appearance in the south-western and southern parts of the British Islands.

Temperature exceeding 70° in the extreme south and south-east of Europe, and in Algeria only; above 60° over France, the south of our Islands, and some parts of North Germany, lower elsewhere, but below 50° in Lapland and the north of Norway. Daily maxima exceeding 70° over England and reaching 75° to 79° in some parts of Germany; exceeding 80° in many parts of France and Italy, and touching 95° at some of the Algerian stations.

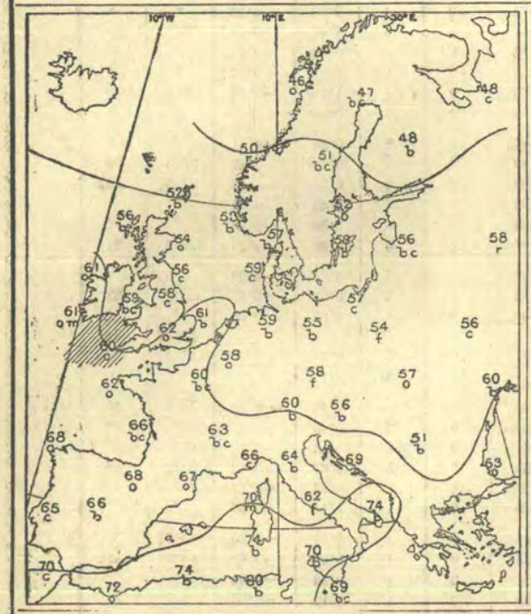
Wind calm over Scotland, Easterly and South-Easterly over Ireland and the greater part of England, as well as in the west and north-west of France, North-Easterly over Spain and the south of France; very variable elsewhere. Easterly wind freshening on our south-western coasts later, and tending to veer South-Eastwards; Westerly breezes setting in on the northern shores of the Mediterranean.

Barometer rather high over north-western, western, and central Europe generally, but highest (30·2 ins. and more) in an anticyclonic system lying over Scotland and the north and east of England; lowest (29·7 ins. and less) in a depression over Southern Russia, and also in the east of Lapland and on the shores of the White Sea. Very shallow depressions forming over the Bay of Biscay and adjacent parts of the Atlantic, and advancing north-eastwards later.

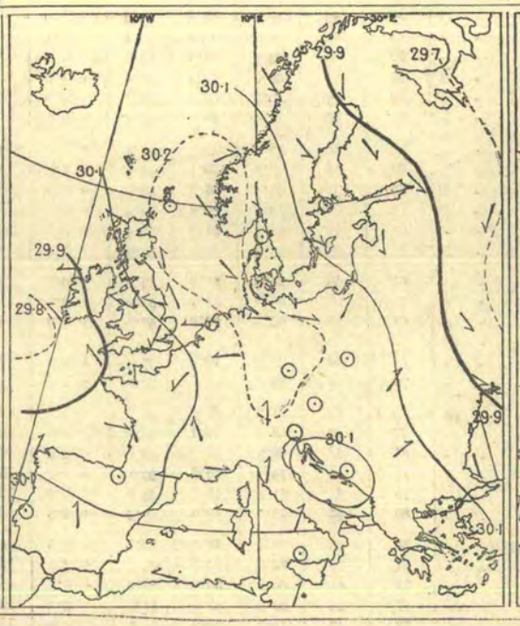
II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 2nd September.

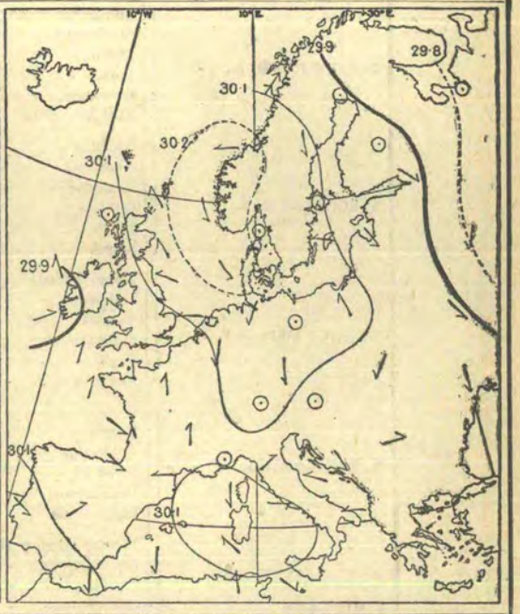
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather still fine and bright over the Mediterranean, with south-western, southern, and central Europe, and at many stations on the shores of the North Sea; cloudy and unsettled elsewhere, with wet fog, and mist in many parts of our Islands. Thunderstorms very prevalent over Ireland, England, France, and Austria later, the lightning being vivid and frequent in many places, but the rainfall not unusual, except at Boulogne, where it was very heavy.

Temperature changing little and irregularly; morning readings rising to between 70° and 80° over the Mediterranean as a whole; above 60° over France and the south and extreme west of the British Islands, but lower elsewhere. Below 50° over Lapland, Finland, and the north of Russia. Daily maxima 70° to 74° over England and the east of Scotland, higher (but below 90°) over Germany, France, and Italy, and exceeding 90° over Central Algeria only.

Wind Northerly to North-Westerly over Russia and northern Europe, South-Westerly to South-Easterly and Easterly, but variable, over western Europe; the South-Easterly wind blowing freshly on our western coasts, and a moderate gale at Pembroke. Wind varying to West and South-West over France and the south of our Islands later; remaining light and very variable elsewhere.

Barometer high generally (30·1 ins. and more) over the Mediterranean, central Europe, and the countries bordering on the North Sea; lowest (29·7 ins. and less) over Central Russia, and rather low in a complex series of depressions lying off the south-western and southern coasts of the British Isles and over the Bay of Biscay and France. Latter disturbances moving northwards later, and causing the disturbed weather referred to above.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛ = a heavy gale; ⟹ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

In the course of this week the dominant pressure systems over Western and Central Europe have been anticyclone, and the weather consequently finer than of late. One of these systems advanced over France from the westward on the 27th, and became generally prevalent during Wednesday and Thursday; the other was developed over the west of our Islands on Friday, and, merging in that previously existing, continued in force until Sunday, when it began to give way on its south-western side. There has consequently been a considerable recovery of temperature in the regions referred to, where the daily maxima have been high, while the night minima have been rather low. Fog and mist have been very prevalent. The extreme north-eastern, northern, and south-eastern parts of Europe have been more under the influence of cyclonic systems, causing a good deal of rain at times in the regions affected, and occasionally accompanied by strong winds.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.)								Rainfall.			Bright Sunshine.	
		Highest observed.	Lowest observed.	Averages for the Week.			Difference of Daily Average from Mean for the Week	Accumulated Heat for the Week (in Day-degrees).		Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Number of Hours recorded.	Percentage of possible duration.
				Of Highest each day.	Of Lowest each day.	For whole of the day.		Above 42° F.	Below 42° F.					
		°	°	°	°	°	°	°	°		Inches.	Inches.		
August 26th - - - -	Cambridge - - - -	—	—	—	—	—	—	—	—	—	—	—	23·1	24

III.—DATA from which the SUMMARY on page 205 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	59	42	57·4	47·6	52·2	− 1·0	71	0	4	0·60	−0·16	*	*
	Stornoway	64	42	60·9	48·6	54·4	+ 1·1	87	0	6	1·65	+0·79	28·9	29
	Wick	70	45	63·0	48·4	55·3	+ 1·5	93	0	3	0·80	+0·23	*	*
	Lairg	67	43	62·5	48·4	55·0	+ 1·6	91	0	1	0·42	−0·26	*	*
	Glencarron	69	47	59·7	49·4	54·2	+ 0·9	85	0	4	1·44†	−0·06	9·0	9
	Fort Augustus	68	46	62·4	?49·1	?55·4	+?0·5	?94	0	2	0·63†	?	*	*
1. SCOTLAND, E.	Nairn	70	45	65·4	48·9	56·7	+ 1·8	103	0	2	0·22	−0·41	*	*
	Aberdeen	69	45	62·9	50·1	56·1	+ 1·2	99	0	3	0·50	−0·23	31·3	32
	Braemar	65	35	61·6	43·2	51·9	− 0·1	69	0	2	0·16	−0·75	27·8‡	29‡
	Ochtertyre	73	39	65·6	49·0	56·8	+ 2·2	104	0	3	0·43	−0·42	*	*
	Leith	69	42	64·4	51·1	57·4	+ 0·9	108	0	4	0·30	−0·28	*	*
	Marchmont	68	41	63·0	49·4	55·8	+ 1·6	97	0	3	0·27	−0·53	20·0	21
2. ENGLAND, N.E.	Alnwick Castle	64	44	61·4	51·0	55·9	+ 0·7	97	0	2	0·34	−0·36	*	*
	Durham	73	50	65·0	51·7	58·0	+ 2·3	112	0	2	0·06	−0·56	28·3	29
	Shields	68	49	62·6	52·0	57·0	+ 1·0	105	0	1	0·07	−0·54	*	*
	Scarborough												25·3‡	26‡
	York	72	45	67·3	49·3	57·8	+ 0·4	111	0	2	0·31	−0·28	21·4	22
	Spurn Head	70	51	64·4	54·0	58·9	+ 1·2	118	0	1	0·27	?	*	*
3. ENGLAND, E.	Hillington	79	42	71·2	49·4	59·7	+ 1·3	124	0	1	0·55	−0·07	56·0	59
	Yarmouth	73	46	66·1	54·1	59·7	0·0	124	0	2	0·49	−0·07	*	*
	Geldeston	81	44	69·9	49·7	59·2	− 0·2	120	0	1	0·46	−0·12	63·9	67
	Cambridge	82	45	74·1	48·3	60·4	+ 0·2	129	0	1	0·66	+0·13	57·0	60
	Rothamsted	79	43	71·9	49·2	59·9	+ 0·3	125	0	1	0·77	+0·17	*	*
	Ingatestone	82	45	72·2	49·9	60·4	+ 0·3	129	0	1	1·14	+0·62	*	*
4. MIDLAND	Bawtry (Hesley Hall)	78	43	70·7	49·9	59·7	+ 1·3	124	0	2	0·30	−0·30	43·7‡	46‡
	Loughborough	81	46	72·9	50·4	61·0	+ 2·1	133	0	1	0·02	−0·62	44·4‡	47‡
	Cheadle	75	47	66·9	50·0	57·9	− 0·2	111	0	1	0·22	−0·62	*	*
	Churchstoke	77	44	68·6	47·6	57·5	− 0·6	109	0	1	0·12	−0·53	35·0	37
	Hereford	78	43	70·6	48·9	59·1	− 0·3	120	0	1	0·04	−0·62	*	*
	Cirencester	77	41	68·4	46·7	56·9	− 2·7	104	0	1	0·03‖	−0·74‖	47·9	50
	Oxford	82	45	72·9	49·4	60·5	+ 0·5	130	0	0	—	−0·59	55·1	58
5. ENGLAND, S.	London	83	45	74·3	51·0	62·0	+ 1·0	140	0	1	0·26	−0·29	48·0‡	51‡
	Strathfield Turgiss	81	41	73·6	47·6	59·8	− 0·6	125	0	0	—	−0·55	*	*
	Dungeness	74	44	69·4	55·0	61·8	+ 1·4	139	0	1	0·25	−0·29	*	*
	Hastings (St. Leonard's)	77	47	70·2	54·8	62·0	+ 1·6	140	0	1	1·10	+0·50	58·6	62
	Southampton	81	45	72·8	50·0	60·7	+ 0·5	131	0	0	—	−0·67	48·7	52
	Hurst Castle	76	48	69·6	53·6	61·1	+ 0·9	134	0	0	—	−0·66	*	*
	Stowell	78	44	69·0	48·4	58·1	− 1·1	113	0	1	0·01	?	43·1‡	46‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	64	48	58·5	50·6	54·3	− 1·7	86	0	3	1·81†	+0·53	*	*
	Glasgow	65	43	61·2	49·8	55·2	− 0·3	92	0	4	0·98	+0·06	26·5	27
	Ardrossan	65	44	62·1	51·0	56·2	+ 0·2	99	0	3	0·67	−0·24	*	*
	Glenlee	70	37	63·2	48·2	55·3	+ 1·0	93	0	5	0·63	−0·47	*	*
	Douglas (Isle of Man)	65	44	62·5	51·6	56·7	0·0	103	0	3	0·20	−0·67	20·5	21
7. ENGLAND, N.W.	Newton Reigny (Penrith)	68	42	64·7	47·9	55·8	− 0·2	97	0	1	0·02	−0·74	28·5	30
	Barrow-in-Furness	65	52	62·7	54·3	58·3	− 0·2	114	0	2	0·05	−0·82	*	*
	Stonyhurst	67	43	63·9	50·1	56·6	− 1·2	102	0	1	0·10	−1·00	24·4	25
	Blackpool	67	48	64·4	51·4	57·5	− 0·5	109	0	2	0·26	−0·47	16·9	18
	Manchester	73	48	67·0	50·0	58·0	− 0·6	112	0	2	0·04	−0·82	*	*
	Liverpool Obsy (Bidston)	69	51	65·3	53·3	58·9	− 0·3	118	0	1	0·02	−0·70	*	*
	Llandudno	69	52	65·0	53·5	58·9	− 0·7	118	0	0	—	−0·68	16·5	17
	Holyhead	68	52	63·4	54·7	58·8	+ 0·1	118	0	1	0·05	−0·65	*	*
8. ENGLAND, S.W.	Llandovery	80	42	70·7	50·9	60·2	+ 1·8	127	0	1	0·03	−1·14	*	*
	Pembroke	66	55	62·9	56·1	59·4	+ 2·2	122	0	1	0·05	−0·69	40·2	42
	Arlington (N. Devon)	76	47	69·1	50·4	59·2	+ 1·3	120	0	1	0·06	−1·19	*	*
	Cullompton	78	41	70·7	46·2	57·7	− 1·9	110	0	4	0·05	−0·70	42·8	46
	Falmouth	69	49	64·9	53·5	58·9	− 1·0	118	0	2	0·82	−0·15	47·2	50
	Plymouth	74	46	68·5	53·0	60·3	− 0·6	128	0	2	0·09	−0·71	49·9	53
	Prawle Point	72	49	65·1	54·9	59·7	+ 1·9	124	0	2	0·06	?	*	*
9. IRELAND, N.	Malin Head	62	49	59·9	53·0	56·2	+ 0·5	99	0	3	0·79	?	*	*
	Londonderry	73	46	65·4	50·7	57·6	+ 1·1	109	0	2	0·65	−0·21	*	*
	Mullaghmore	66	48	61·7	52·4	56·8	− 0·9	104	0	4	1·25	+0·35	*	*
	Belmullet	68	47	61·9	52·0	56·7	+ 0·2	103	0	5	1·94	?	*	*
	Markree Castle	70	38	64·0	48·5	55·8	− 1·7	97	0	5	0·67	−0·12	27·3	28
	Brookeborough	70	43	63·1	50·3	56·3	− 1·2	100	0	4	0·29	?	*	*
	Armagh	67	45	64·5	51·5	57·6	+ 0·1	109	0	2	0·18	−0·50	16·6	17
	Donaghadee	65	51	62·1	53·4	57·5	+ 1·0	109	0	2	0·13	−0·59	*	*
	Edgeworthstown	70	41	65·0	49·3	56·7	− 1·0	103	0	4	0·19	−0·60	*	*
10. IRELAND, S.	Dublin	70	47	64·3	53·1	58·4	+ 0·7	115	0	2	0·03	−0·60	28·5	30
	Parsonstown	72	41	65·6	50·3	57·5	− 0·7	109	0	2	0·03	−0·77	20·3	21
	Kilkenny	70	45	65·9	50·9	58·0	+ 0·2	112	0	1	0·07	−0·68	*	*
	Waterford	70	45	66·4	51·0	58·2§	+ 0·1§	113§	0	1	0·06	−0·80	*	*
	Roche's Point	64	47	61·9	52·4	56·9	− 2·0	104	0	1	0·08	−0·82	*	*
	Valencia	71	47	63·6	53·9	58·6	+ 0·2	116	0	4	0·37	−0·72	19·3	20
	Killarney	69	49	63·4	49·9	56·3	− 2·2	100	0	4	0·87	?	*	*
	Foynes	69	48	64·4	53·4	58·6	+ 0·9	116	0	3	0·11	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	66	53	64·7	55·7	59·9	− 0·5	125	0	3	0·42	−0·24	*	*
	Jersey	78	47	71·0	54·4	62·2	+ 0·8	141	0	2	0·12	−0·49	56·6	60

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked S with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

§ The corresponding values in last week's Report should read "55·1," "− 3·8," and "92."

‖ The corresponding values in last week's Report should read "0·83" and "+ 0·08."

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VI. No. 36.] *Third Series.* WEEK ENDING MONDAY, 9TH SEPTEMBER, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 216.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	73	44	63·0	50·2	56·3	3 above.	100	+22	0	0	1680	+219	514	+ 4
	1. SCOTLAND, EAST	70	37	64·0	48·8	56·0	2 above.	98	+ 5	0	0	1943	+ 44	548	+ 5
	2. ENGLAND, N.E.	72	43	63·3	52·5	57·6	2 above.	109	+ 3	0	0	2068	+ 38	489	+ 7
	3. ENGLAND, EAST	71	45	66·5	53·2	59·5	1 above.	123	+ 3	0	0	2361	+ 13	619	+112
	4. MIDLAND COUNTIES	73	44	66·2	52·9	59·3	2 above.	121	+ 2	0	0	2340	+ 7	564	+ 60
	5. ENGLAND, SOUTH	74	43	67·7	54·6	60·8	2 above.	132	+ 5	0	0	2577	+ 53	448	+ 75
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	70	41	64·5	51·7	57·8	3 above.	111	+12	0	0	2069	+ 81	375	− 23
	7. ENGLAND, N.W.	71	39	65·9	52·8	59·0	2 above.	119	+11	0	0	2191	+ 75	382	− 1
	8. ENGLAND, S.W.	73	44	66·6	54·6	60·3	2 above.	128	+12	0	0	2364	− 27	321	+ 88
	9. IRELAND NORTH	70	46	64·9	54·2	59·3	3 above.	121	+21	0	0	2114	+ 41	297	− 53
	10. IRELAND, SOUTH	70	49	65·1	55·1	59·9	2 above.	125	+18	0	0	2347	+ 8	225	− 14
	— CHANNEL ISLANDS	71	53	66·7	56·8	61·5	1 above.	137	+10	0	0	2660	+ 96	77	− 16

Rainfall. / Bright Sunshine.

	DISTRICTS. (See p. 216.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	2	2	6 less.	166	+15	27·0	−0·3	29	31	797	−189	23	− 6
	1. SCOTLAND, EAST	1	less than ½	7 less.	134	+ 4	18·3	−3·1	34	36	1017	−122	30	− 3
	2. ENGLAND, N.E.	1	less than ½	6 less.	123	− 3	16·5	−1·6	26	29	942	− 90	28	− 3
	3. ENGLAND, EAST	2	1	5 less.	129	+ 1	18·0	+1·1	22	24	1053	−199	32	− 6
	4. MIDLAND COUNTIES	2	2	5 less.	120	− 5	20·1	+0·7	18	19	979	−138	29	− 4
	5. ENGLAND, SOUTH	0	-	6 less.	123	+ 3	16·4	−1·4	24	26	1034	−168	31	− 5
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	1	1	9 less.	140	− 1	27·0	−3·7	30	33	1067	− 23	32	0
	7. ENGLAND, N.W.	1	less than ½	8 less.	127	− 3	20·4	−2·0	35	38	1033	− 55	31	− 1
	8. ENGLAND, S.W.	2	1	9 less.	128	− 9	22·6	−5·2	26	29	1204	− 96	36	− 3
	9. IRELAND, NORTH	3	2	6 less.	157	0	25·6	+1·8	22	24	901	−106	27	− 3
	10. IRELAND, SOUTH	3	2	7 less.	140	− 7	24·9	−1·4	22	23	1117	− 34	33	− 2
	— CHANNEL ISLANDS	1	1	7 less.	134	−13	17·4	−2·9	43	48	1361	−171	41	− 5

General Remarks.

Weather has been in a fair, but cloudy, condition very generally, with a good deal of wet mist or fog in different parts of the Kingdom. During the night-time heavy dews have been very prevalent, but the days have been dry over England.

Temperature has been above the mean in all districts, the excess having ranged from 1° in "England, E." and the Channel, to 3° in the north and west of Scotland and north of Ireland. The highest of the maxima, which were recorded either on the 6th or 9th, varied from 70° in Ireland and the east and west of Scotland, to 73° in "Scotland, N.", the "Midland Counties", and "England, S.W.", and to 74° in "England, S." The lowest of the minima, which were registered on somewhat variable dates, ranged from 37° in "Scotland, E." and 39° in "England, N.W.", to 49° in "Ireland, S." and 53° in the "Channel Islands." During the earlier part of the period the daily minima were very high for the time of year.

Rainfall has been much less than the mean in all districts, and at many stations rain has been altogether absent. The fall over the country generally has been less during this week than in any weekly period since that which ended on July 1st.

Bright sunshine has been more prevalent than it was last week over Scotland and the north of England, but less so in all other districts. The percentage of the possible amount of duration ranged from 19 in the "Midland Counties" to 36 in "Scotland, E.", 38 in "England, N.W.", and 48 in the "Channel Islands".

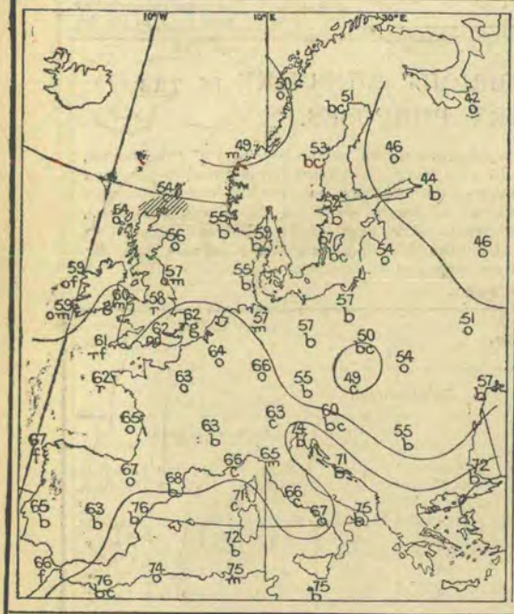
Barometer and Wind.—At the commencement of the period several shallow disturbances were shown in different parts of the United Kingdom producing very light and variable winds. These systems, however, soon dispersed, the distribution of barometric pressure became anticyclonic, and the winds generally Easterly in the south and south-east, Southerly in the west and north. Towards the end of the period the anticyclone gave way and some rather large depressions skirted our western coasts; but a new anticyclone appeared to the southward of us. South-Westerly to Southerly winds consequently set in on all our coasts, and in the west blew freshly or strongly.

59988. 350.—9/89. Wt. 36. E. & S.

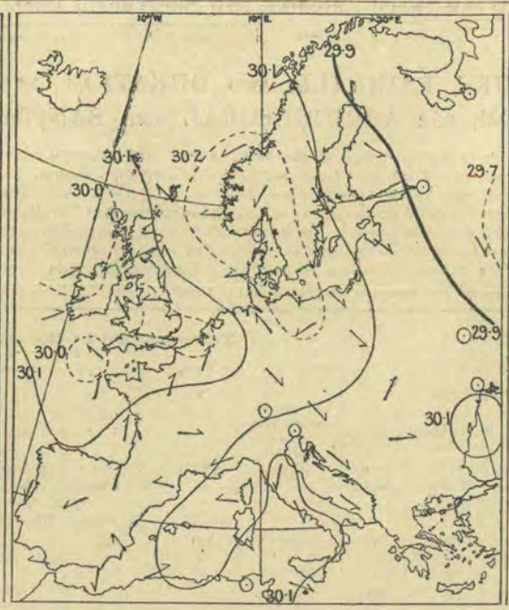
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 3rd September.

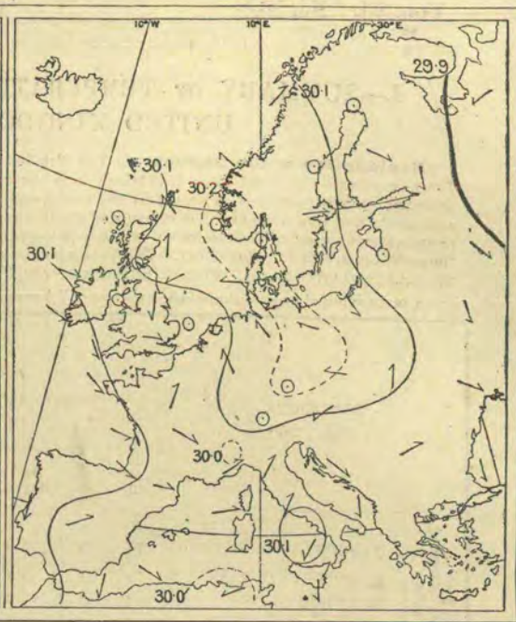
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather dull and unsettled over the United Kingdom generally, air misty, close, and oppressive, fog in the north-west; fine and bright over Spain, southern and central Europe as well as in Denmark and Scandinavia. Rainfall in our Islands slight during day, but a good deal in some parts of France and Switzerland; thunder and lightning over western Europe and the eastern half of the British Islands.

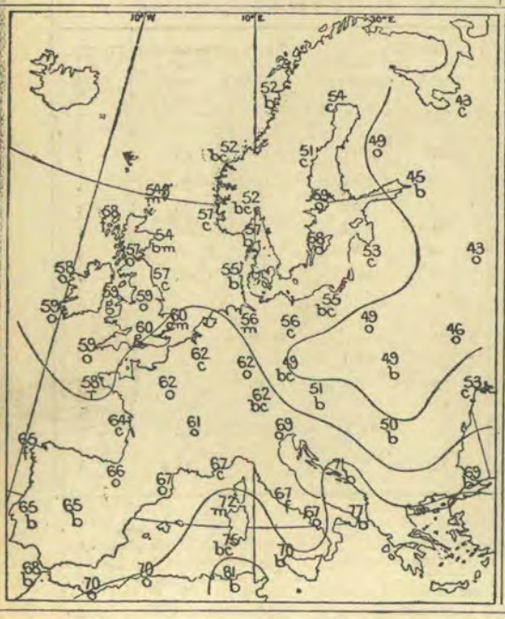
Temperature exceeding 70° at most of the Mediterranean stations and at Constantinople; exceeding 60° over France, South Germany, and the southern parts of the United Kingdom; lower elsewhere. Below 50° over the northern half of Russia and in some parts of Poland. Daily maxima over the United Kingdom all below 70° except at Hurst Castle, but exceeding 80° in some parts of France, Spain, Italy, and Southern Austria, and exceeding 90° at Palermo and over central Algeria.

Wind moderate to fresh from north at the Swedish stations, light or moderate, and very variable elsewhere; extremely light over southern, central, and eastern Europe. Northerly wind moderating at the Swedish stations later, and Northerly to North-Westerly breezes setting-in on our south-western coasts and over the Bay of Biscay. No material alteration elsewhere.

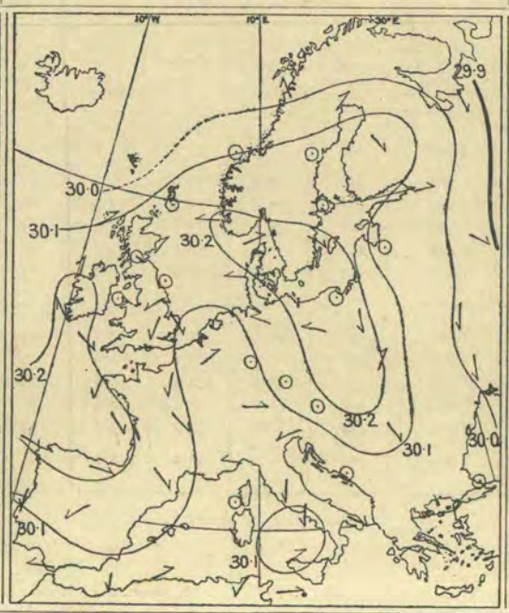
Barometer somewhat high in an irregularly formed band, covering Spain, the south of France, Germany, and the countries lying immediately to the eastward of the North Sea; highest of all (30·2 ins. and more) over Norway and Denmark and apparently over the Atlantic, near the Portuguese coast. Lowest, about 29·7 ins., over central Russia, and rather low in several shallow disturbances lying over the British Islands. Latter systems disappearing almost completely during day and barometer rising very generally, both over the United Kingdom and Russia.

Wednesday, 4th September.

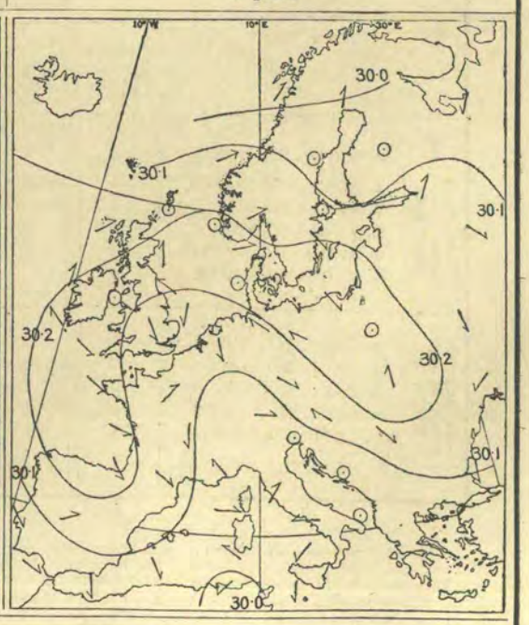
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine and bright generally over south-western, south-eastern, and central Europe, and locally in most other districts; dull and gloomy in other places, foggy locally, and somewhat rainy at one or two isolated stations. Much rain at Munich and Trieste later, small quantities of drizzle and wet fog at some of our own western and south-western stations, and some fall in the north of Norway.

Temperature in morning exceeding 70° at several of the Mediterranean stations, and exceeding 60° over France and the southern parts of the United Kingdom; lower elsewhere, and below 50° over the greater part of Russia and Finland. Daily maxima ranging from 65° to 70° over England, the Netherlands, and north Germany; rising to 80° and more over the southern parts of France, to nearly 90° at Madrid and Palermo, and to (?) 114° at Aumale.

Wind light generally and extremely variable. Chiefly Northerly to North-Westerly over England, the Channel, and north and west of France; South-Easterly over northern Germany and the eastern shores of the North Sea. Southerly airs setting in over Ireland later, and South-Westerly winds in the north-west of Norway. A gale at Christiansund.

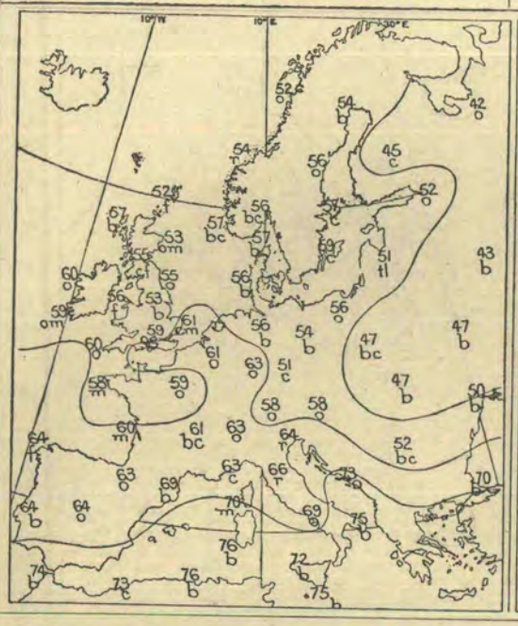
Barometer highest over Germany, the Baltic, Denmark, and the south of Scandinavia; low (comparatively) in the far north, and also over the Mediterranean; but gradients very slight. A new high-pressure area, however, appearing over the Bay of Biscay and Ireland, spreading quickly to the northward and eastward, and becoming united at its northern end with that already prevailing over Germany.

II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 5th September.

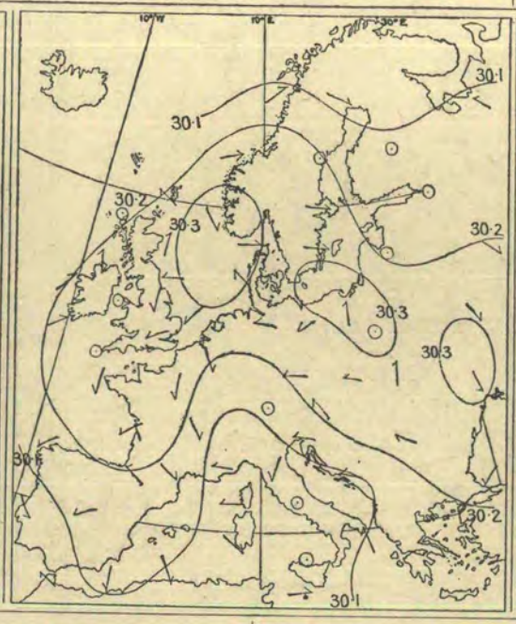
Temperature and Weather.

8 a.m.

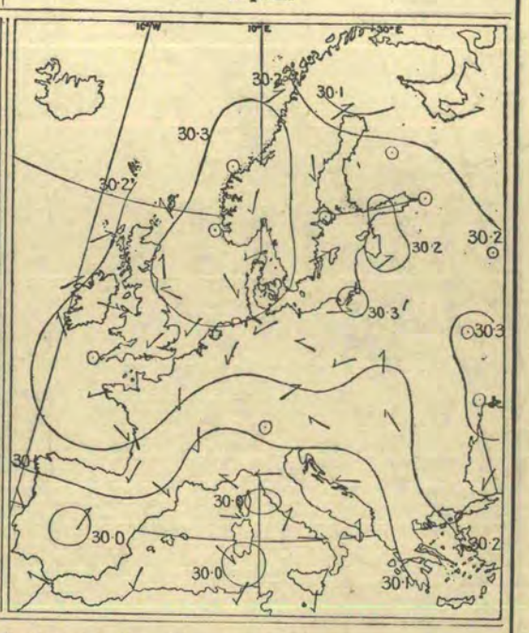


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine and bright over Russia and at some stations in other parts of Europe, cloudy and gloomy as a whole elsewhere, with damp mists and fogs in several parts of the British Islands; thunder and lightning at Memel, rain at Trieste. A good deal of rain over South Germany, and some parts of Hungary, Switzerland, and northern Italy later, and misty drizzle in the east and south-east of Ireland.

Temperature exceeding 70° over the south-eastern, southern, and western shores of the Mediterranean, and exceeding 60° over France, western Germany, and the south of England; below 50° over several parts of Russia and Poland. Daily maxima below 70° over our Islands as a whole, and over the greater part of Germany, but touching 80° at one or two French stations, exceeding 85° in several parts of Spain and Italy, and exceeding 90° at some stations in Algeria.

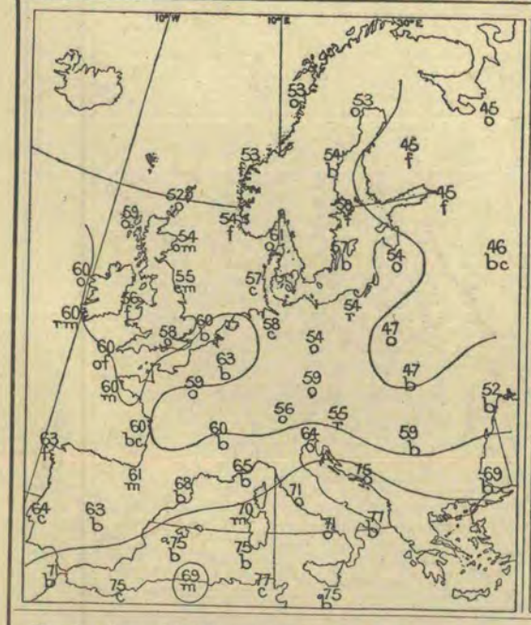
Wind moderate to strong from South-west in the north-west of Norway, light from the Southward in Ireland and Scotland, from the Northward over England and France, and from North-East in Spain. Extremely light and variable elsewhere, and calm in many places. No general change later.

Barometer high, 30·2 ins. and more in a very large and irregularly formed area covering the Bay of Biscay, the United Kingdom, North Sea, Scandinavia, Denmark, Germany, Austria, and Western Russia, with well marked maxima of 30·3 ins. and more over the North Sea, north-east Germany, and southern Russia. The North Sea maximum becoming larger later, and spreading north-eastwards over Scandinavia.

Friday, 6th September.

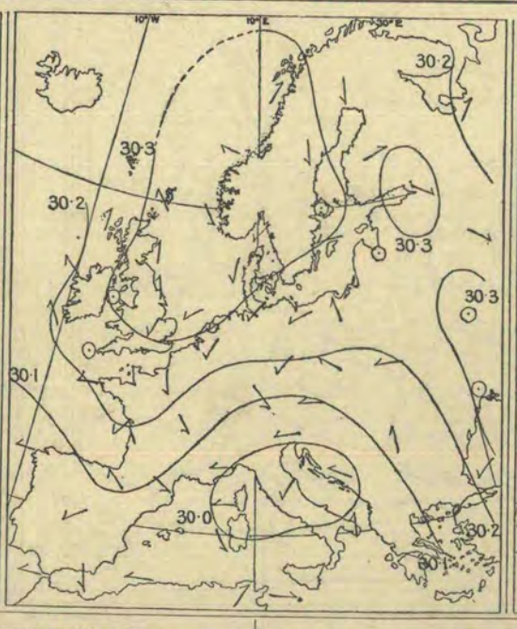
Temperature and Weather.

8 a.m.

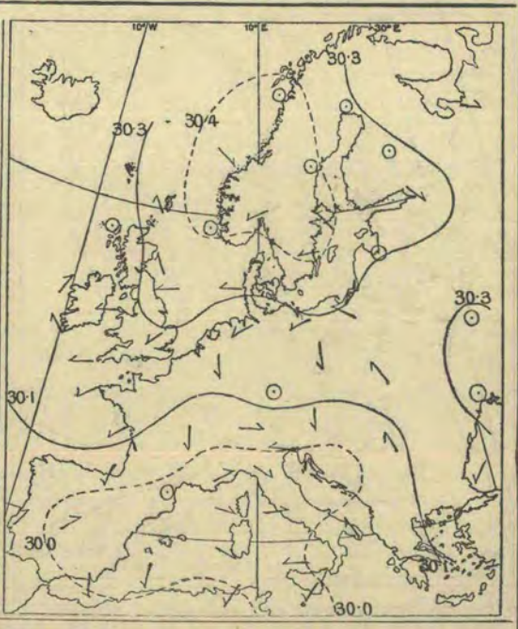


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine and bright over the Mediterranean, south-western and southern Europe, many parts of France, the Netherlands, and south of England; cloudy or dull elsewhere, misty and foggy in many places (the fogs being damp), rainy at Buda-Pesth. Rain later in several parts, both of north and south Germany, Hungary, and some portions of southern Russia; wet mists in south of Ireland.

Temperature exceeding 70° in the morning on the western, southern, and eastern shores of the Mediterranean, and at Bilbao, and exceeding 60° in several parts of France, the Netherlands, and south of England; lower elsewhere; below 50° at most of the Russian and Polish stations; and as low as 44° at Cracow, 45° at St. Petersburgh, Kuopio, and Archangel. Daily maxima slightly above 70° over England, 85° at Perpignan, 86° at Rochefort and in some parts of Italy, and above 90° at Madrid, Palermo, and over the inland parts of Algeria.

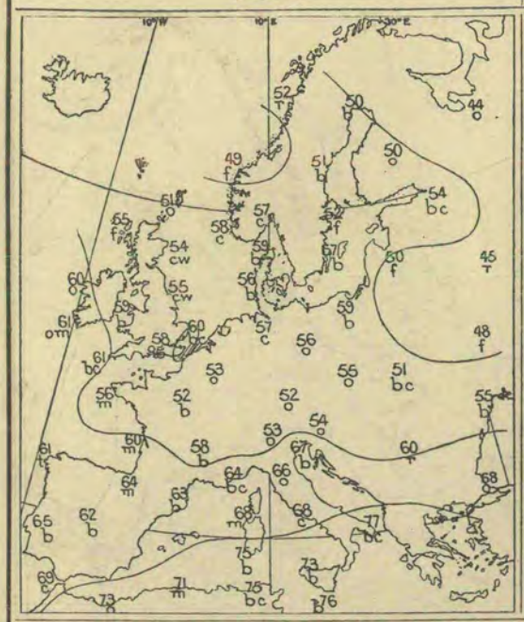
Wind light generally; Southerly in Ireland and Scotland, North-Easterly over Denmark, the Netherlands, England, the Channel, and west of France. Easterly in the north of Spain and on the northern shores of the Mediterranean and Adriatic; very variable elsewhere. Becoming more variable over our Islands later, but freshening from north-east in the Channel and south of England.

Barometer highest, 30·2 ins. to 30·3 ins. and more, in a large anticyclone covering the whole of north-western and northern Europe; lowest, 30·0 ins. and less, over the north-eastern parts of the Mediterranean, Italy, and the Adriatic; gradients slight, barometer steady. Slight fall in the south-west and south later.

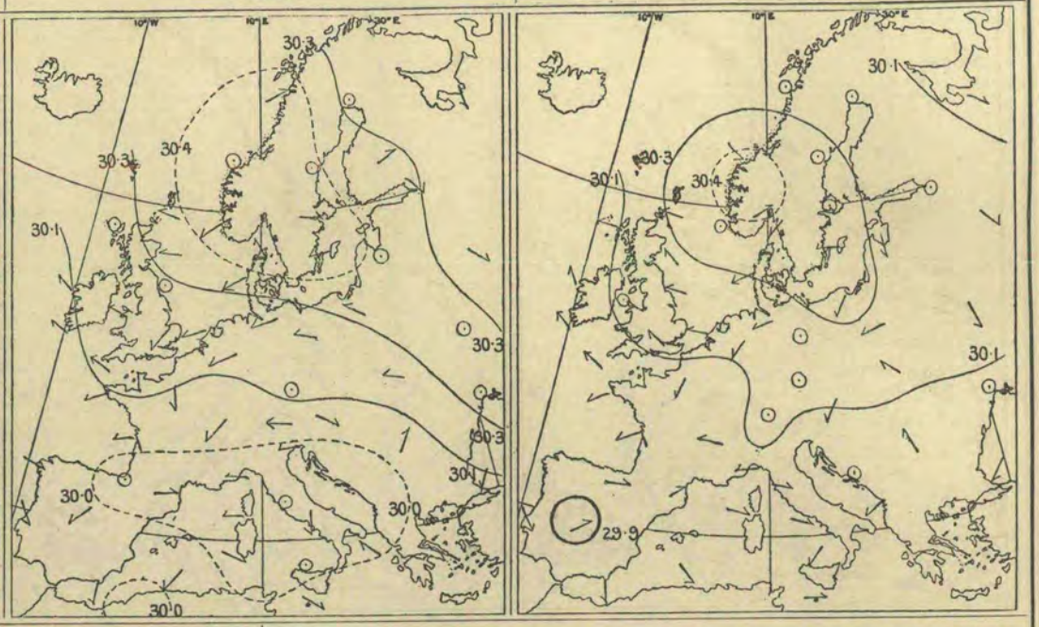
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 7th September.

Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.** / **6 p.m.**



Weather less fair than of late; still fine and bright in Algeria, Spain, and France, and also at several of the Baltic and Danish stations, and in the Channel and west of England; cloudy elsewhere, hazy or foggy in many places; rain locally in several parts of Russia and Germany, and at Barcelona later, as well as in the extreme west of our Islands (0·8 in. at Valencia).

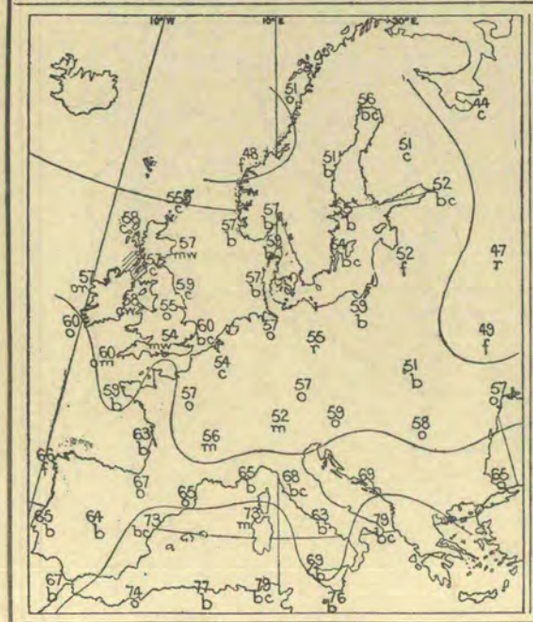
Temperature very similar to that of Friday (6th); below 60° at 8 a.m. over the greater part of our Islands, and rising to 70° on our extreme south coast only during day. Daily maxima less high generally than on the 6th, but nevertheless exceeding 100° in some parts of central Algeria, and touching 80° at Madrid.

Wind mainly Easterly over the Baltic, central and western Europe, South-Easterly in Ireland, Southerly at Wick, and South-Westerly at Bodö and Uleaborg. Chiefly North-Westerly, and very light over Russia, and extremely variable over the Mediterranean. The South-Easterly wind freshening at Valencia later; not much change elsewhere.

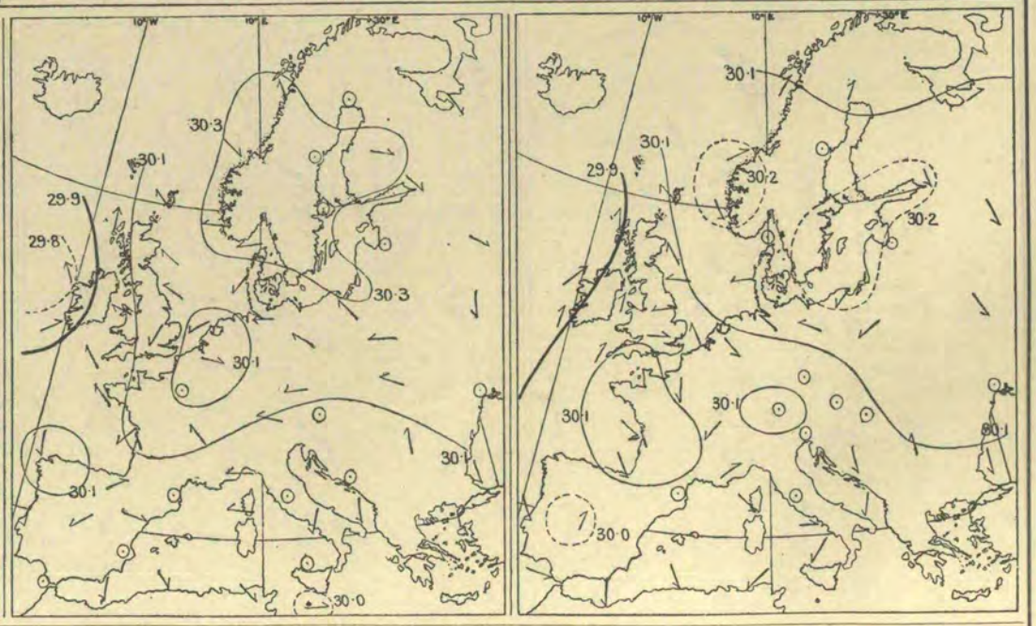
Barometer falling except over Scandinavia; central area of anticyclone now covering that region, where readings exceeded 30·4 ins.; large shallow depression covering the Mediterranean, but dispersing later. Pressure giving way slowly over the British Isles and north-western Europe generally during the day.

Sunday, 8th September.

Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.** / **6 p.m.**



Weather variable and less fair as a whole than on previous day or two. Still fine and bright over south-western and southern Europe as well as on the eastern shores of the North Sea and in some parts of our Islands. Cloudy, and locally rainy, elsewhere, with much fog and haze continuing in many parts of our Islands. Some rain later at many of our western and north-western stations and in Lapland; also in several parts of Germany and Austria, and a little at Moscow.

Temperature continuing between 70° and 79° (at 8 a.m.) over the countries on the western and southern sides of the Mediterranean and exceeding 60° in the south and west of France; below 60° over our Islands and below 50° in several parts of Russia and Finland. Daily maxima below 70° all over the United Kingdom, and only just reaching that value in Germany. Rising to 81° at Lisbon, 86° in the south of Italy, 90° and more at Madrid, and rising to between 95° and 105° over central Algeria.

Wind fresh Southerly over the western parts of our Islands, with a tendency to veer Westwards at Valencia; light North-Easterly over England, Easterly over central Europe; very variable elsewhere, and dead calm at several Swedish stations. Southerly winds less fresh in the west of our Islands later, and very little change elsewhere.

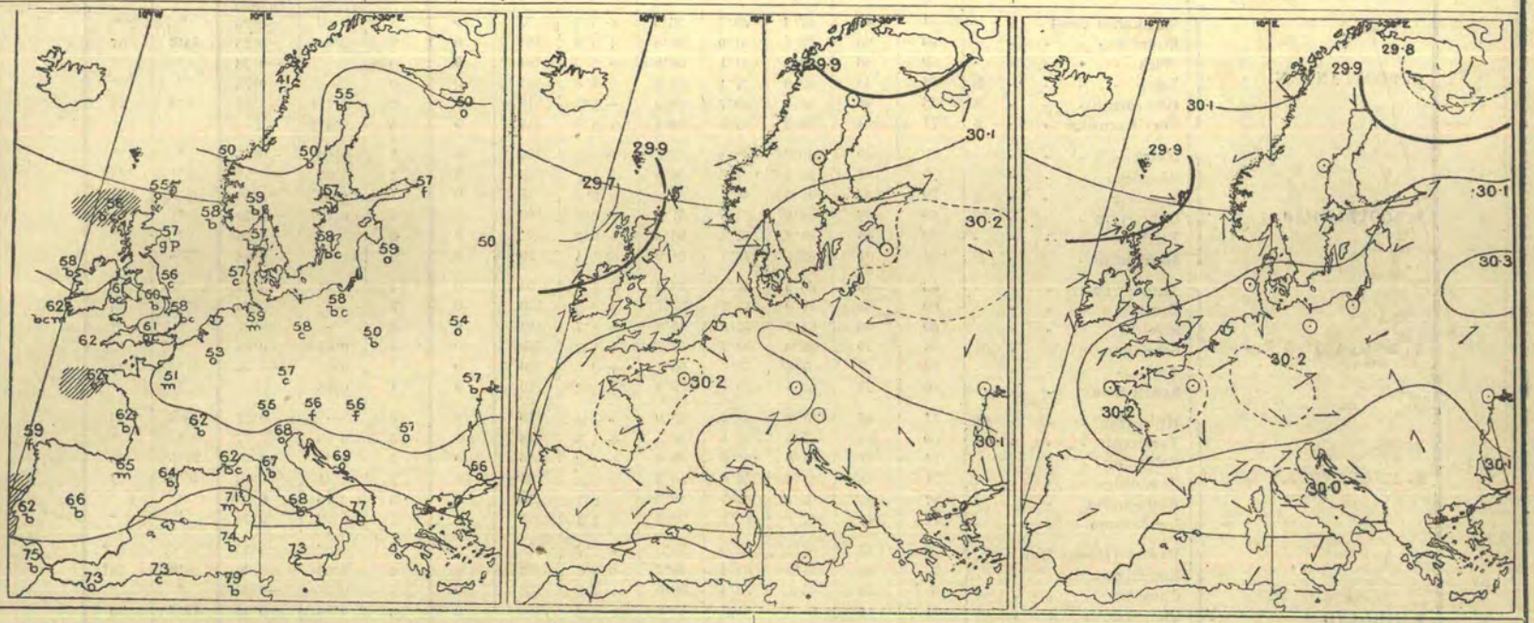
Barometer inclined to rise a little over southern Europe and to fall elsewhere. Anticyclone over northern Europe decreasing in intensity. Very shallow depression over the Netherlands and extreme east of England, filling up slowly, and new small anticyclone appearing over the Bay of Biscay and north of Spain, and moving eastwards.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 9th September.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine and bright over southern Europe and the western parts of our Islands, as well as over the southern half of Scandinavia and at many of the North German stations; dull and very variable elsewhere, with fog or haze in many localities, and rain at Moscow, Bodö, Aberdeen, and Prawle Point. Heavy rain at Buda-Pesth later, and small quantities on various parts of the western and northern coasts of Europe.

Temperature in morning ranging between 70° and 80° on the western, southern, and easte n shores of the Mediterranean, and above 60° on most of the French coasts and in several parts of the British Islands; lower elsewhere. Risen over Russia and now below 50° at Bodö only. Daily maxima rising to 70° and more over England during the afternoon, and exceeding 80° at many of the southern and western French stations. Maxima 75° to 85° over Italy, 92° at Madrid, and 95° to 99° over central Algeria.

Wind Southerly to South-Westerly in our Islands, moderate to fresh in force, Southerly, moderate, over Sweden, Easterly over the Bay of Biscay, and very variable elsewhere. South-Westerly wind falling light over the British Islands later, but no change of importance reported elsewhere.

Barometer falling rather decidedly in extreme north-west of our Islands and Europe, and slightly over the Baltic and Germany. Two high-pressure areas found—one over Russia, Poland, and the Baltic, the other over France, Spain, and Bay of Biscay. Well-marked depression off our north-western coasts moving northwards, and another over Lapland moving eastwards; no low-pressure areas of importance in the south. High-pressure area over France growing much larger later, that over Russia moving south-eastwards. Barometer rising in the British Isles.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟹ = a heavy gale; ⟹ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

At the commencement of this period a rather complex low-pressure system, having three distinct minima, lay over the British Isles, and another low-pressure area over central Russia, while an anticyclonic system lay over the eastern shores of the North Sea. The low-pressure systems soon disappeared, other anticyclones arrived over north-western Europe from the Atlantic, and spread over nearly the whole of the Continent, and, under their influence, quiet, foggy, misty weather was experienced very generally. Owing to local disturbances rains and thunderstorms were felt at times over south Germany, Austria, and northern Italy, and at the close of the week fresh South-Westerly winds and showers prevailed for a time over the United Kingdom, as a moderate depression passed north-eastward outside our north-western coasts, but, as a whole, the winds reported have been variable in direction and very light in force.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	61	49	57·3	50·1	53·5	+ 1·0	81	0	1	0·03	−0·75	*	*
	Stornoway	65	46	63·1	51·0	56·8	+ 4·5	104	0	2	0·64	−0·25	34·6	37
	Wick	69	48	63·0	51·1	56·8	+ 3·5	104	0	0	—	−0·58	*	*
	Lairg ℌ	68	44	62·9	47·1	54·2	+ 1·6	85	0	0	—	−0·72	*	*
	Glencarron ℌ	73	46	66·5	50·7	58·2	+ 5·7	113	0	2	0·11†	−1·43	22·4	24
	Fort Augustus ℌ	71	44	66·2	51·4	58·4	+ 3·8	115	0	4	0·47†	?	*	*
1. SCOTLAND, E.	Nairn	69	40	66·9	48·3	57·2	+ 3·3	106	0	1	0·02	−0·61	*	*
	Aberdeen	70	47	61·1	51·3	56·0	+ 1·9	98	0	2	0·03	−0·71	26·1	28
	Braemar ℌ	70	37	65·0	44·8	54·4	+ 3·2	87	0	1	0·02	−0·88	39·2‡	42‡
	Ochtertyre ℌ	69	47	64·0	51·0	57·2	+ 3·0	106	0	2	0·11	−0·75	*	*
	Leith	69	48	61·9	51·4	56·4	+ 0·7	101	0	0	—	−0·58	*	*
	Marchmont ℌ	68	41	65·1	45·7	54·9	+ 1·4	90	0	0	—	−0·84	35·8	38
2. ENGLAND, N.E.	Alnwick Castle	66	43	60·9	50·3	55·4	+ 1·7	94	0	1	0·03	−0·67	*	*
	Durham	69	44	64·9	51·1	57·7	+ 2·2	110	0	1	0·01	−0·60	31·2	34
	Shields	69	48	61·7	52·3	56·8	+ 1·7	104	0	0	—	−0·61	*	*
	Scarborough ℌ	68	50	62·0	53·7	57·7	+ 1·5	110	0	1	0·01	−0·66	? ‡	? ‡
	York	72	47	67·6	51·6	59·2	+ 2·6	120	0	3	0·10	−0·55	21·4	23
	Spurn Head	69	54	62·6	55·7	59·0	+ 2·2	119	0	1	0·03	?	*	*
3. ENGLAND, E.	Hillington ℌ	71	46	67·2	51·6	59·0	+ 1·4	119	0	0	—	−0·67	23·8	26
	Yarmouth	69	52	64·6	56·4	60·3	+ 1·5	128	0	3	0·08	−0·57	*	*
	Geldeston	71	47	67·3	53·0	59·8	+ 1·2	125	0	3	0·49	−0·18	27·5	30
	Cambridge	71	48	67·4	52·6	59·6	+ 0·2	123	0	2	0·11	−0·45	16·0	17
	Rothamsted	67	45	65·1	52·5	58·5	− 0·1	116	0	3	0·10	−0·55	*	*
	Ingatestone	71	47	67·1	53·2	59·8	+ 1·7	125	0	1	0·02	−0·54	*	*
4. MIDLAND	Bawtry (Hesley Hall)	73	47	66·3	52·9	59·3	+ 1·7	121	0	1	0·07	−0·55	15·0‡	16‡
	Loughborough	73	50	68·3	54·0	60·8	+ 3·1	132	0	2	0·32	−0·36	16·8‡	18‡
	Cheadle ℌ	68	50	64·1	52·4	58·0	+ 1·3	112	0	3	0·78	−0·06	*	*
	Churchstoke ℌ	71	44	65·6	51·5	58·2	+ 1·2	113	0	3	0·26	−0·42	17·7	19
	Hereford ℌ	70	49	66·9	54·4	60·4	+ 2·3	129	0	2	0·11	−0·59	*	*
	Cirencester	69	44	65·4	52·0	58·4	+ 0·1	115	0	1	0·08	−0·71	20·4	22
	Oxford	70	47	67·0	53·4	59·9	+ 1·2	125	0	1	0·07	−0·58	19·2	21
5. ENGLAND, S.	London	74	45	68·1	54·6	61·0	+ 1·0	133	0	2	0·06	−0·53	19·3‡	21‡
	Strathfield Turgiss ℌ	71	43	68·4	52·9	60·3	+ 0·9	128	0	0	—	−0·61	*	*
	Dungeness	69	48	68·0	55·1	61·2	+ 1·6	134	0	0	—	−0·60	*	*
	Hastings (St. Leonard's)	67	51	66·2	55·6	60·7	+ 1·4	131	0	1	0·02	−0·63	35·4	39
	Southampton	73	49	69·4	54·8	61·8	+ 3·1	139	0	0	—	−0·73	21·7	24
	Hurst Castle	71	50	68·7	54·7	61·4	+ 2·3	136	0	0	—	−0·73	*	*
	Stowell ℌ	68	48	65·4	54·2	59·5	+ 1·3	123	0	0	—	?	18·5‡	20‡
6. SCOTLAND, W.	Laudale (Loch Sunart)										†		*	*
	Glasgow	66	48	63·0	51·7	57·1	+ 2·3	106	0	2	0·04	−0·91	29·4	32
	Ardrossan	67	49	64·9	52·3	58·3	+ 3·3	114	0	1	0·05	−0·86	*	*
	Glenlee ℌ	70	41	67·0	48·2	57·2	+ 3·7	106	0	1	0·07	−1·11	*	*
	Douglas (Isle of Man)	66	49	63·1	54·4	58·5	+ 3·1	116	0	1	0·08	−0·80	30·9	34
7. ENGLAND, N.W.	Newton Reigny (Penrith)	71	39	67·2	45·3	55·7	+ 0·6	96	0	1	0·01	−0·79	50·0	54
	Barrow-in-Furness	68	51	65·0	53·9	59·2	+ 2·0	120	0	1	0·02	−0·87	*	*
	Stonyhurst	69	49	64·3	53·3	58·5	+ 1·9	116	0	1	0·03	−1·12	30·5	33
	Blackpool ℌ	70	48	66·4	52·2	58·8	+ 2·3	118	0	0	—	−0·83	31·0	34
	Manchester	70	49	67·3	53·7	60·2	+ 2·6	127	0	1	0·03	−0·90	*	*
	Liverpool Obsr (Bidston)	69	49	65·7	54·7	59·9	+ 1·7	125	0	1	0·03	−0·76	*	*
	Llandudno ℌ	69	50	66·7	54·0	60·1	+ 1·3	127	0	1	0·04	−0·69	28·0	30
	Holyhead	68	52	64·9	55·0	59·7	+ 1·5	124	0	4	0·05	−0·69	*	*
8. ENGLAND, S.W.	Llandovery	73	47	71·0	52·1	61·1	+ 3·5	134	0	2	0·09	−1·09	*	*
	Pembroke	67	52	63·1	55·9	59·3	+ 3·5	121	0	3	0·17	−0·65	28·5	31
	Arlington (N. Devon)	70	49	66·1	53·4	59·5	+ 2·4	123	0	2	0·08	−1·07	*	*
	Cullompton ℌ	72	44	69·0	52·1	60·1	+ 1·3	127	0	1	0·01	−0·83	18·4	20
	Falmouth	67	53	65·0	56·0	60·3	+ 1·0	128	0	3	0·09	−0·99	27·2	30
	Plymouth	72	53	68·2	56·7	62·2	+ 2·2	141	0	3	0·18	−0·74	30·2	33
	Prawle Point	68	54	63·6	55·9	59·6	+ 2·6	123	0	3	0·34	?	*	*
9. IRELAND, N.	Malin Head	66	54	62·4	55·3	58·7	+ 3·9	117	0	1	0·04	?	*	*
	Londonderry	70	51	67·0	53·9	60·1	+ 4·4	127	0	2	0·16	−0·72	*	*
	Mullaghmore	67	52	65·4	56·0	60·5	+ 3·7	130	0	4	0·12	−0·92	*	*
	Belmullet	67	54	64·3	56·3	60·1	+ 4·3	127	0	4	0·63	?	*	*
	Markree Castle	68	47	66·1	52·6	59·0	+ 2·4	119	0	4	0·38	−0·40	21·1	23
	Brookeborough	67	47	65·0	53·1	58·8	+ 2·2	118	0	2	0·35	?	*	*
	Armagh	68	46	65·3	52·8	58·8	+ 2·2	118	0	1	0·02	−0·68	23·4	25
	Donaghadee	70	53	61·9	55·1	58·3	+ 2·7	114	0	2	0·03	−0·71	*	*
	Edgeworthstown	68	49	66·7	52·6	59·3	+ 2·2	121	0	3	0·21	−0·58	*	*
10. IRELAND, S.	Dublin	68	53	64·1	54·7	59·2	+ 2·4	120	0	2	0·12	−0·49	19·7	21
	Parsonstown	69	50	67·7	54·0	60·5	+ 2·8	130	0	2	0·05	−0·76	28·9	31
	Kilkenny	68	49	65·3	52·3	58·5	+ 1·2	116	0	2	0·04	−0·72	*	*
	Waterford	70	51	65·8	54·0	59·6	+ 2·5	123	0	2	0·09	−0·79	*	*
	Roche's Point	64	54	62·4	56·1	59·1	+ 1·3	120	0	6	0·33	−0·62	*	*
	Valencia	64	56	63·3	57·6	60·3	+ 2·5	128	0	5	0·36	−0·74	16·5	18
	Killarney	69	55	66·0	56·5	61·0	+ 3·2	133	0	1	0·11	?	*	*
	Foynes	69	53	66·5	55·5	60·7	+ 3·4	131	0	2	0·16	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	67	55	65·0	57·6	61·1	+ 1·2	134	0	2	0·11	−0·64	*	*
	Jersey	71	53	68·4	56·0	61·9	+ 1·1	139	0	0	—	−0·70	43·3	48

Stations marked ℌ are in connection with the Royal Meteorological Society, and those marked ℌ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

(OFFICIAL COPY.)

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 37.] *Third Series.* WEEK ENDING MONDAY, 16TH SEPTEMBER, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number, TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 222.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	66	34	53·9	47·2	52·8	1 above.	76	+ 5	0	0	1756	+221	514	+ 4
	1. SCOTLAND, EAST	73	39	61·5	49·7	55·3	3 above.	93	+ 8	0	0	2036	+ 53	548	+ 5
	2. ENGLAND, N.E.	74	41	63·0	52·6	57·5	3 above.	109	+13	0	0	2177	+ 54	489	+ 7
	3. ENGLAND, EAST	80	41	68·1	52·3	59·9	3 above.	125	+18	0	0	2486	+ 31	619	+112
	4. MIDLAND COUNTIES	83	39	68·4	52·1	59·9	4 above.	125	+13	0	0	2465	+ 32	564	+ 59
	5. ENGLAND, SOUTH	84	36	70·2	53·6	61·5	4 above.	137	+21	0	0	2714	+ 77	448	+ 75
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	68	36	61·5	51·8	56·4	3 above.	101	+11	0	0	2172 *	+ 93	375	− 23
	7. ENGLAND, N.W.	73	40	63·7	53·1	58·1	2 above.	113	+15	0	0	2304	+ 86	382	− 1
	8. ENGLAND, S.W.	84	37	67·5	52·5	59·6	3 above.	123	+15	0	0	2487	− 10	321	+ 88
	9. IRELAND NORTH	76	49	63·9	54·0	58·8	4 above.	118	+27	0	0	2232	+ 71	297	− 53
	10. IRELAND, SOUTH	75	42	64·8	54·5	59·4	3 above.	122	+22	0	0	2469	+ 35	225	− 14
	— CHANNEL ISLANDS	78	52	67·8	56·5	61·9	3 above.	139	+18	0	0	2799	+117	77	− 16

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 222.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	2	5	2 less.	168	+13	27·5	−0·4	16	18	813	−201	23	− 6
	1. SCOTLAND, EAST	2	2	6 less.	136	+ 2	18·5	−3·7	15	17	1032	−131	30	− 3
	2. ENGLAND, N.E.	2	2	5 less.	125	− 4	16·7	−2·1	16	18	960 *	−101	28	− 3
	3. ENGLAND, EAST	1	less than ½	7 less.	130	− 1	18·0	+0·5	26	30	1079	−210	32	− 6
	4. MIDLAND COUNTIES	1	less than ½	7 less.	121	− 8	20·1	−0·1	26	30	1005	−145	29	− 4
	5. ENGLAND, SOUTH	0	-	7 less.	123	0	16·4	−2·1	45	51	1079	−158	32	− 5
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	3	3	7 less.	144 *	− 1	27·3	−4·4	11	12	1078	− 45	31	− 1
	7. ENGLAND, N.W.	2	1	8 less.	129	− 5	20·5	−2·8	19	21	1052	− 72	30	− 2
	8. ENGLAND, S.W.	1	less than ½	11 less.	129	−12	22·6	−6·2	38	43	1242	− 96	36	− 3
	9. IRELAND, NORTH	3	7	2 less.	160	− 1	26·3	+1·7	14	16	915	−121	27	− 3
	10. IRELAND, SOUTH	3	4	5 less.	143	− 8	25·3	−1·9	21	24	1138	− 46	33	− 2
	— CHANNEL ISLANDS	1	less than ½	8 less.	135	−16	17·4	−3·8	67	76	1428	−152	42	− 4

General Remarks.

Weather has been very fine and dry over the more southern and the south-western parts of England, but over Ireland, Scotland, and the northern parts of England the conditions, though generally dry, have been very cloudy.

Temperature was much above the mean during the greater part of the period, but towards its close the thermometer fell quickly, so that for the whole week the average shows an excess of only 1° in "Scotland, N." and 2° in "England, N.W.", while the greatest difference was no more than 4°, over southern and central England and the north of Ireland. The highest of the maxima, which were recorded on irregular dates between the 10th and 13th, varied from 66° to 73° in Scotland, from 75° to 76° in Ireland, and from 73° to 84° over England. The lowest of the minima, which were registered either on the 15th or 16th, ranged from 34° in "Scotland, N." and 36° in "England, S." and "Scotland, W." to 49° in "Ireland, N." and 52° in the "Channel Islands." During the earlier part of the period the minima were, in many instances, as high as 60°.

Rainfall has again been less than the mean in all districts. At many of the English stations the weather has continued absolutely rainless.

Bright sunshine shows an increase in most parts of England and in the "Channel Islands", but a decrease in Ireland, Scotland, and the north of England. The percentage of the possible amount of duration ranged from 76 in the "Channel Islands" to 51 in "England, S." and 43 in "England, S.W.", while in the other districts it ranged from 30 in the "Midland Counties" and "England, E." to 16 in "Ireland, N." and 12 in "Scotland, W."

Barometer and Wind.—The distribution of barometric pressure during this period has been mainly anticyclonic; no depressions have appeared directly over us, but both at the commencement and at the end of the period some low pressure systems were moving northwards outside our western coasts. The winds have consequently been light or moderate in force and somewhat variable in direction. At first they were generally South-Westerly, and subsequently became Northerly and North-Easterly, but towards the end of the week Southerly breezes of increasing strength set in over all our western and northern districts, while light Easterly airs were experienced in the south and south-east.

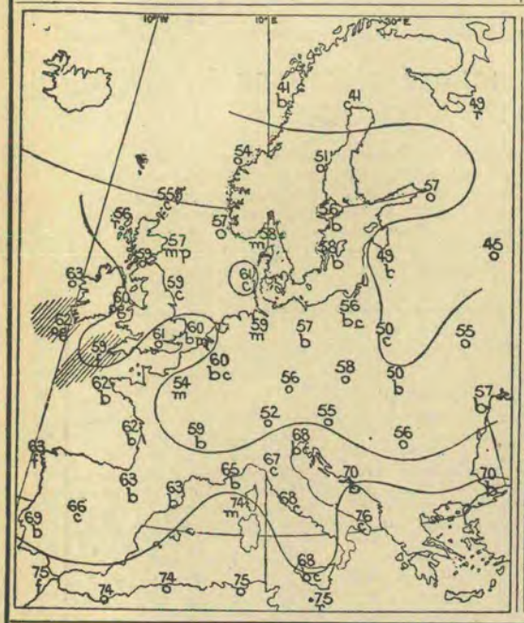
* This value has been altered in consequence of the receipt of further information.

60034. 350.—9/89. Wt. 36. E. & S.

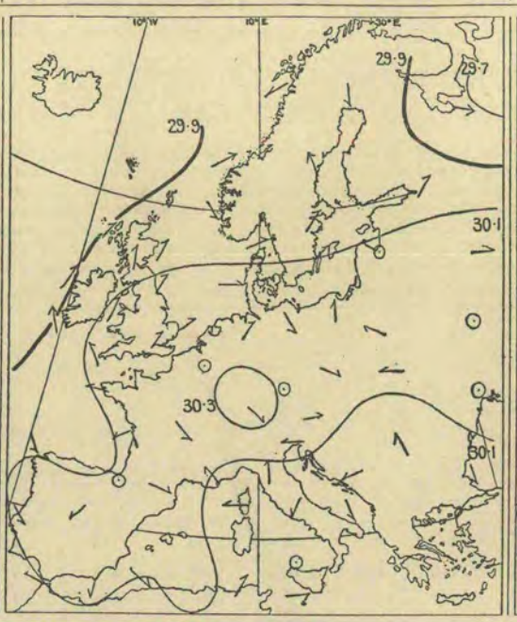
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 10th September.

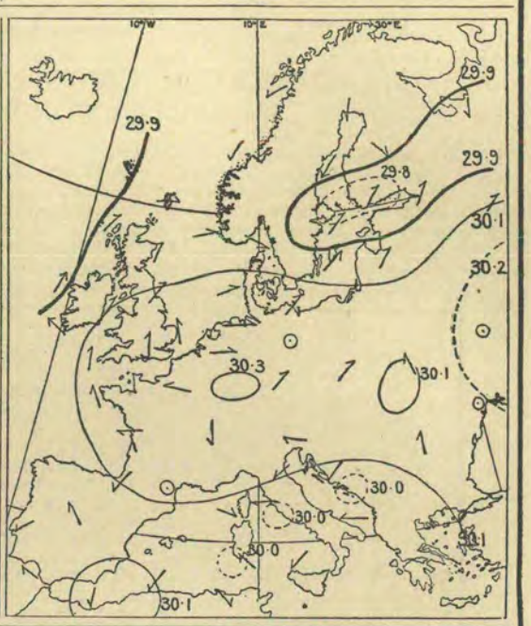
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine and bright over Spain, the Mediterranean, the eastern half of England, and many parts of Germany. Cloudy or overcast elsewhere, with fog in the south-west of England, mist in many other places, and rain in the north of Scotland, as well as at Archangel and Malta. Fog in south-west clearing later, but heavy rain falling at some of our extreme western and northern stations.

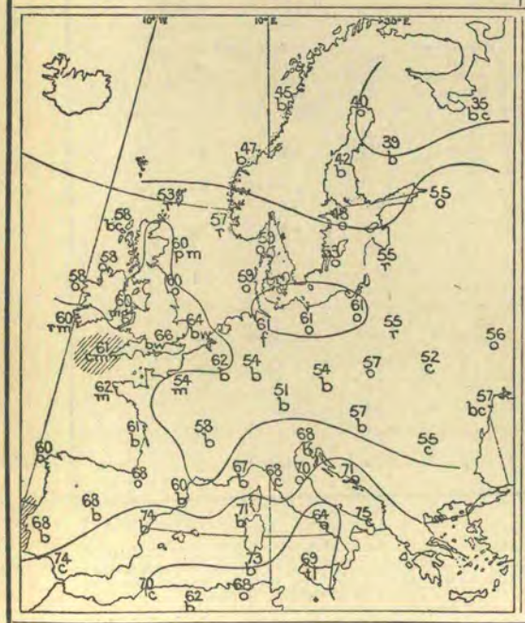
Temperature highest, 75° and upwards, over various parts of the Mediterranean and the coasts of the Iberian peninsula; lowest, 45° or less, over Lapland and central Russia. Daily maxima 75° to 78° over central and southern England, but thermometer rising to 85° and upwards in many parts of France as well as over Spain and central Algeria. Highest readings of all, 95° at Biskra, 93° at Rochfort, Madrid, and Laghouat, and 91° at Cape Béarn.

Wind Southerly (South-East to South-West) over the British Islands; strong in force in the west of Ireland. Light or moderate from the Eastward and North-Eastward over the Bay of Biscay and the greater part of southern Europe; Westerly to South-Westerly over Norway, Denmark and the Baltic; calm or light and very variable elsewhere. Scarcely any change occurring during day.

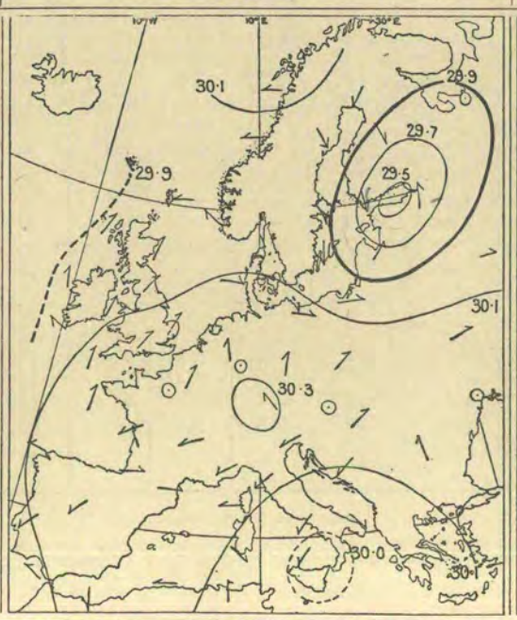
Barometer highest, 30·1 ins. to 30·3 ins., over the western, central, and eastern parts of Europe; lowest, 29·7 ins. and less, over the extreme north of Russia, but somewhat low (29·9 ins. and less) in a large depression lying to the westward of our Islands. Low pressure system over northern Russia subsequently extending in a south-westerly direction to the Gulf of Finland, depression in far west moving slowly northwards.

Wednesday, 11th September.

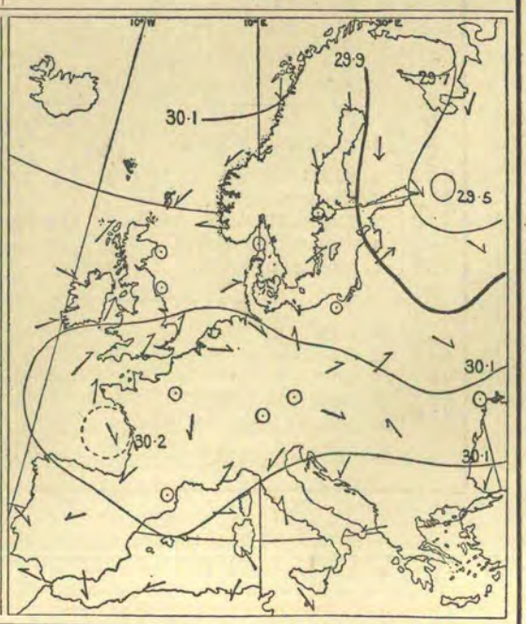
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine in the east and south of England as well as over the greater part of central, southern, and eastern Europe. Cloudy or overcast elsewhere, with rain at Valencia, as well as at Riga and Warsaw. Rain falling later in the west and north of our Islands later as well as over the south of Scandinavia and central Russia.

Temperature highest, 70° and upwards, at some of the Mediterranean stations; lowest, 40° and less, over northern Russia. Subsequently rising to 80°, and a little above, over the south-east of England and some parts of France, and to 90° and upwards over the central districts of Spain and Algeria, the highest readings of all being 100° at Laghouat, 97° at Biskra, and 94° at Madrid.

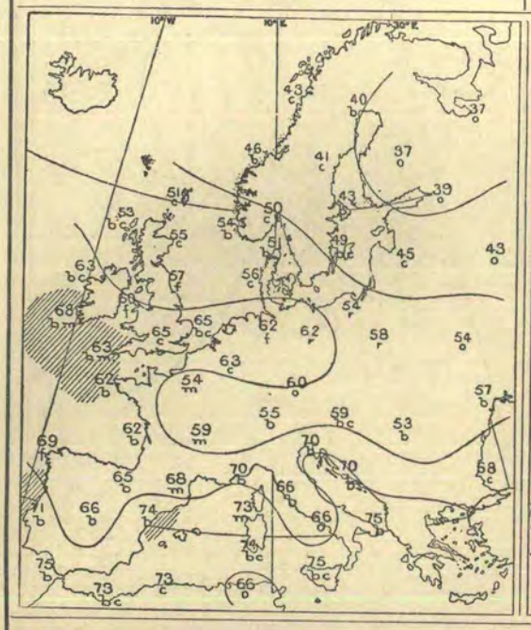
Wind light or moderate from the Southward over the greater part of the United Kingdom, and light from the Eastward in the Shetlands and west of Norway. Fresh or strong from the Northward over Finland and Sweden, light from the Westward over north Germany and central Russia, North-Easterly over southern Europe. Subsequently veering to the South-Westward or Westward on the western coasts of the United Kingdom.

Barometer highest, 30·2 ins. and upwards, in an anticyclone lying over France, Germany, and Austria, and also in another system lying over the south of Russia. Lowest, 29·5 ins. and less, in a depression lying over the Gulf of Finland; somewhat low, 29·9 ins. and less, in a large area lying to the westward of our Islands. Low pressure system in far west subsequently travelling northwards, and barometer rising on all our western coasts.

II.—SUMMARY OF WEATHER OVER EUROPE.

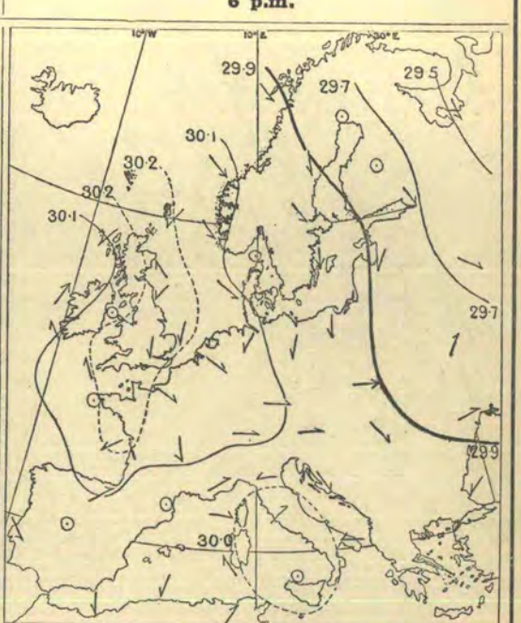
Thursday, 12th September.

Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**

6 p.m.



Weather fair generally, but dull in the north of our Islands, as well as over Germany and Russia, with fog in many places, and rain at Neufahrwasser and Warsaw. Rain falling later at many of the Russian stations, and thunderstorms occurring at Wick and also at La Calle.

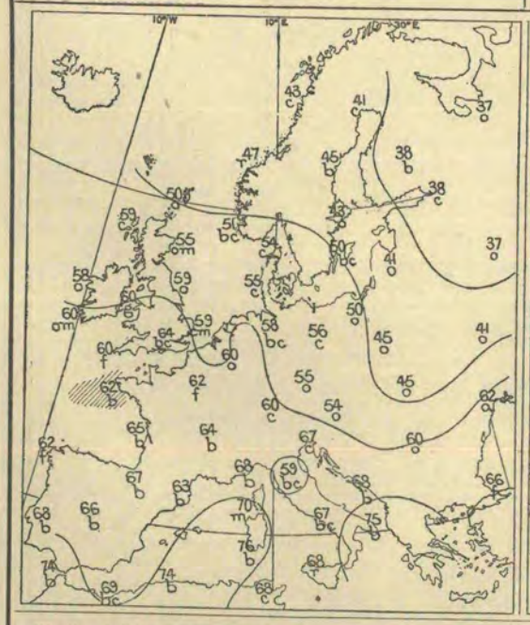
Temperature highest, 70° to 75° at several of the Mediterranean stations; lowest, 40° or less, over northern Russia. Subsequently rising to between 75° and 78° over the central and southern parts of England to 80° and upwards over France and southern Europe generally, and to 90° or more over the central parts of Spain and Algeria. Highest readings of all, 97° at Biskra, 95° at Rochefort and Laghouat, and 91° at La Coubre, Bordeaux, Madrid, and Lisbon.

Wind light or moderate from the Northward or North-Westward over the North Sea, Scandinavia, Denmark, and northern Russia, and from the Westward over Germany, Poland, and central Russia. Fresh or strong from the South-Eastward in the extreme west and south-west of our Islands; light from the North-Eastward over the greater part of southern Europe; variable over France and the central parts of Great Britain.

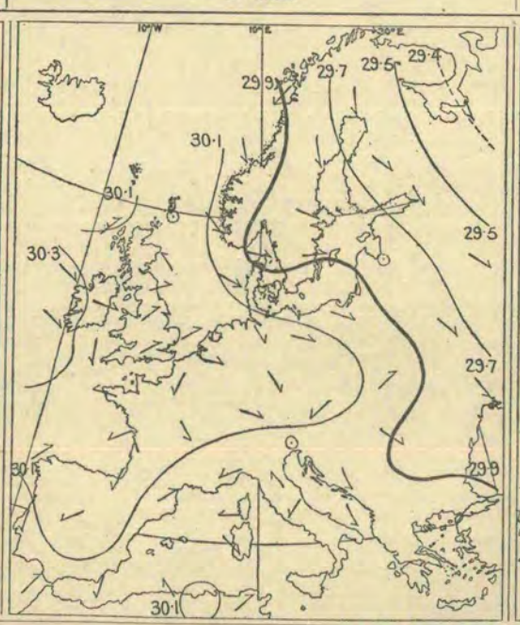
Barometer highest, 30·2 ins. and upwards, in a large anticyclone lying over the south of England and the greater part of France, as well as in a smaller system lying over the north and north-east of Scotland. Lowest, 29·6 ins. and less, in a large depression lying over the northern parts of Russia, but shallow areas with readings below 30·0 ins. lying respectively to the south-westward of our Islands and off the coasts of Tunis and Sicily. Anticyclonic systems over France and our northern districts subsequently becoming united.

Friday, 13th September.

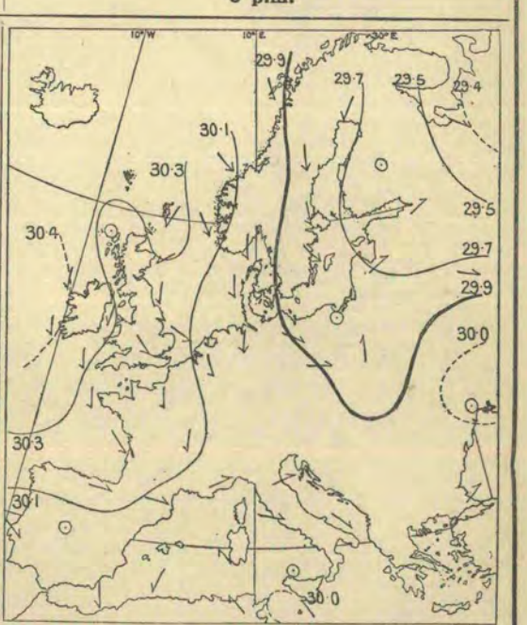
Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



6 p.m.



Weather dull in the north and extreme west of our Islands, as well as at some of the Russian, German, and Austrian stations. Fine in most other localities, but foggy or misty in many parts of Great Britain, and rainy at Christiansund. A little rain falling later over Germany and the northern parts of the United Kingdom.

Temperature highest, 73° and upwards, at some of the Spanish and Mediterranean stations; lowest, 40° or less, over central and northern Russia. Rising during day to between 75° and 80° over the south of England, and to considerably above 85° at some of the French and Spanish stations. Highest readings of all, 93° at Rochefort, 91° at Perpignan, 90° at Bordeaux, Corunna, and Madrid.

Wind Northerly or North-Westerly on the west coasts of our Islands, as well as over the greater part of northern, eastern, and central Europe; fresh or strong in force on the eastern shores of the North Sea. Light from the Northward or North-Eastward over France and Spain, but South-Westerly in the east of England. Northerly breezes setting in later in nearly all parts of western Europe.

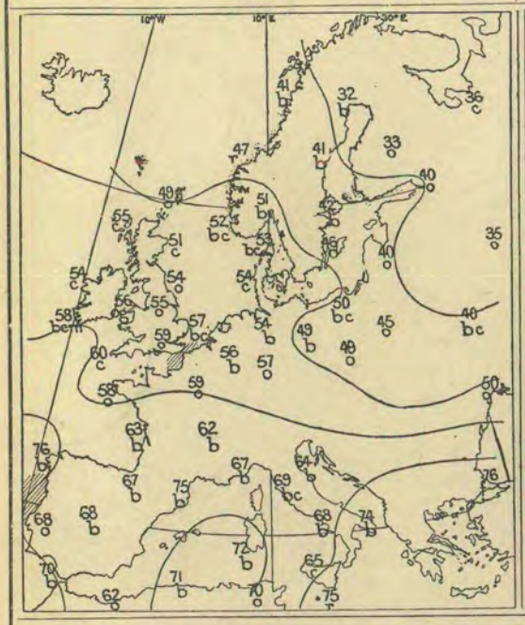
Barometer highest, 30·20 ins. to 30·35 ins., in a large anticyclone covering Ireland, the southern parts of England, the Bay of Biscay, and the greater part of France, as well as in a smaller system lying over the extreme north of Scotland. Lowest, 29·4 ins. and less in the north of Russia; somewhat low, 29·9 ins. and less, in a shallow depression lying over the south of Sweden. The two anticyclonic systems subsequently uniting, and spreading eastwards slowly.

II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 14th September.

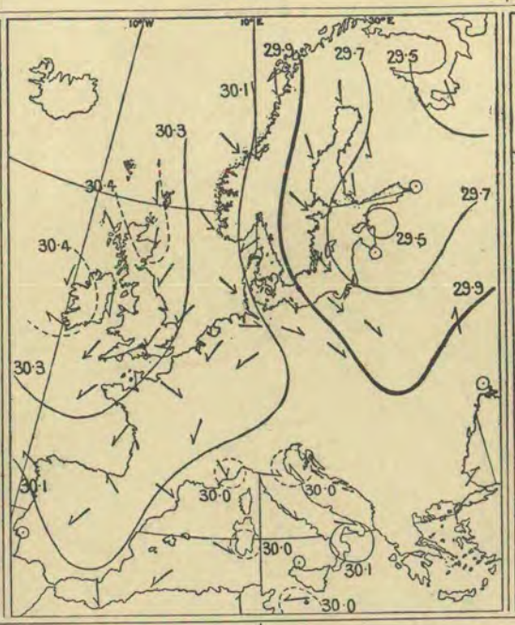
Temperature and Weather.

8 a.m.

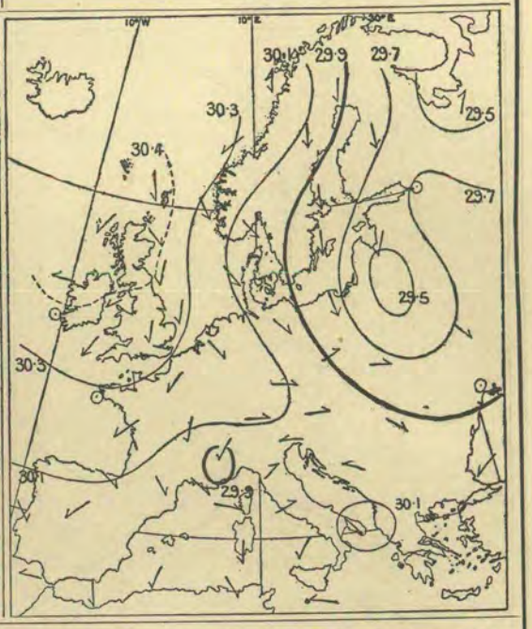


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine and bright over south-western and southern Europe and the Mediterranean, fair but dull over the greater part of the British Isles, cloudy and somewhat unsettled over northern and central Europe, with rain at Christiansund, Helsingfors, and Memel. Rain later over the Baltic and north Germany, and small quantities at a few of our own north-western stations and in the west of Norway.

Temperature falling, except over the southern and south-western countries. Morning readings below 40° over Finland and most parts of Russia, lowest of all being 32° at Haparanda, 33° at Kuopio, and 35° at Moscow; between 50° and 60° over our Islands as a whole; above 70° on the southern shores of the Mediterranean and at Constantinople. Daily maxima in our Islands below 70°, except at Prawle Point and Dungeness, but exceeding 80° in the south-west of France and parts of Italy, and exceeding 90° at some stations in Spain and Algeria.

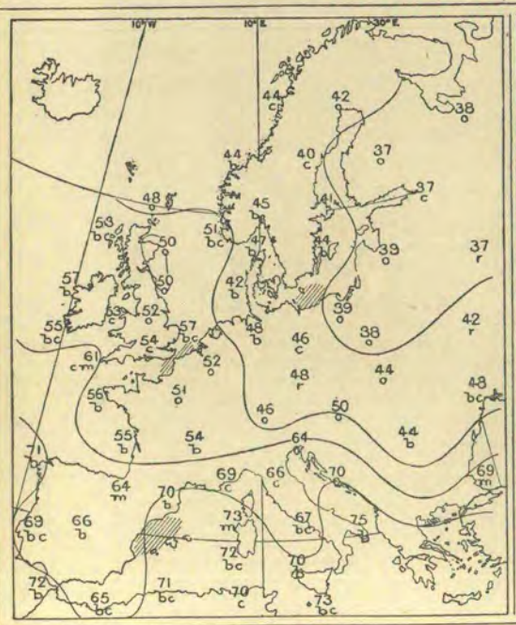
Wind Northerly to North-Westerly over Scandinavia and the Baltic, strong in places, and a gale at Christiansund and Wisby; North-Westerly moderate over Germany, North-easterly over England, the Channel, and north and west of France, Northerly in Ireland, and calm in Scotland. Very variable and light over southern Europe. No great change later, beyond an increase in strength of wind from North over the Gulf of Finland.

Barometer high and rising over our Islands, low and falling over eastern Europe. Well marked depression over the Baltic Provinces, and some small and very shallow disturbances over the Mediterranean. Russian depression moving slowly to southward later, and a small one over the south of France growing deeper; barometer still rising a little in our Islands.

Sunday, 15th September.

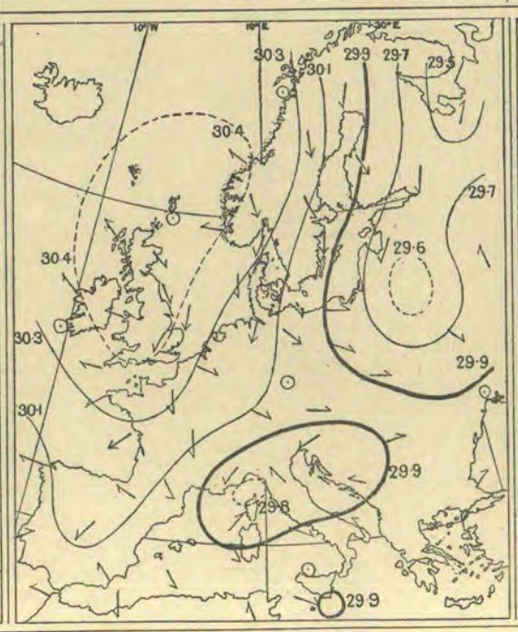
Temperature and Weather.

8 a.m.

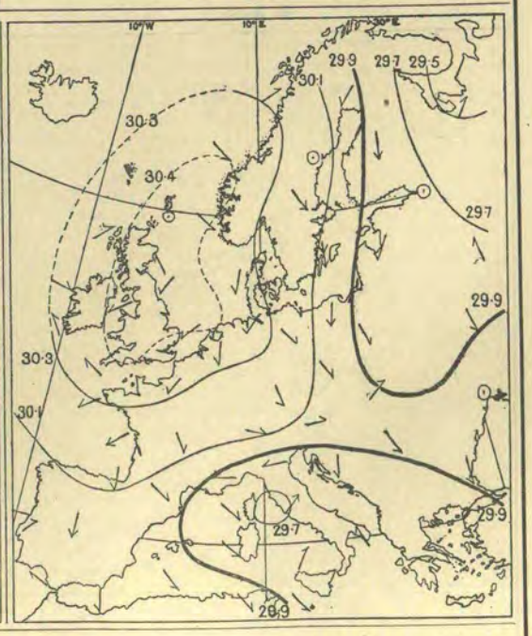


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine and bright over western and south-western Europe and at several of the Mediterranean stations, dry but cloudy over the British Islands; less fair over the Baltic and eastern Europe, with occasional rain in many places.

Temperature still decreasing over western Europe, air dry and chilly; Russian and Polish temperatures very low, but those in Spain and extreme south of France not much affected at present. Morning readings still below 40° in Russia (lowest 34° at Helsingfors), and as low as 45° at Nairn, 50° at Shields, and 51° at Paris. Daily maxima below 60° in many parts of our Islands and Germany, below 80° even in the south-west of France (excepting Perpignan) but exceeding 80° in several parts of Italy and Spain, and touching 90° in some parts of Algeria.

Wind Northerly over Scandinavia, the Baltic, and Germany, strong to a gale in several places; North-Easterly to Easterly, light to moderate, over the British Islands, the Channel, north of France, and Bay of Biscay, North-Westerly moderate over south Germany, and Westerly in Austria. Separate cyclonic circulation of moderate winds over the northern parts of the Mediterranean, Italy, and Adriatic. Wind beginning to draw Southwards in the west of our Islands later and freshening; cyclonic circulation over Mediterranean, becoming more extensive, and winds strong.

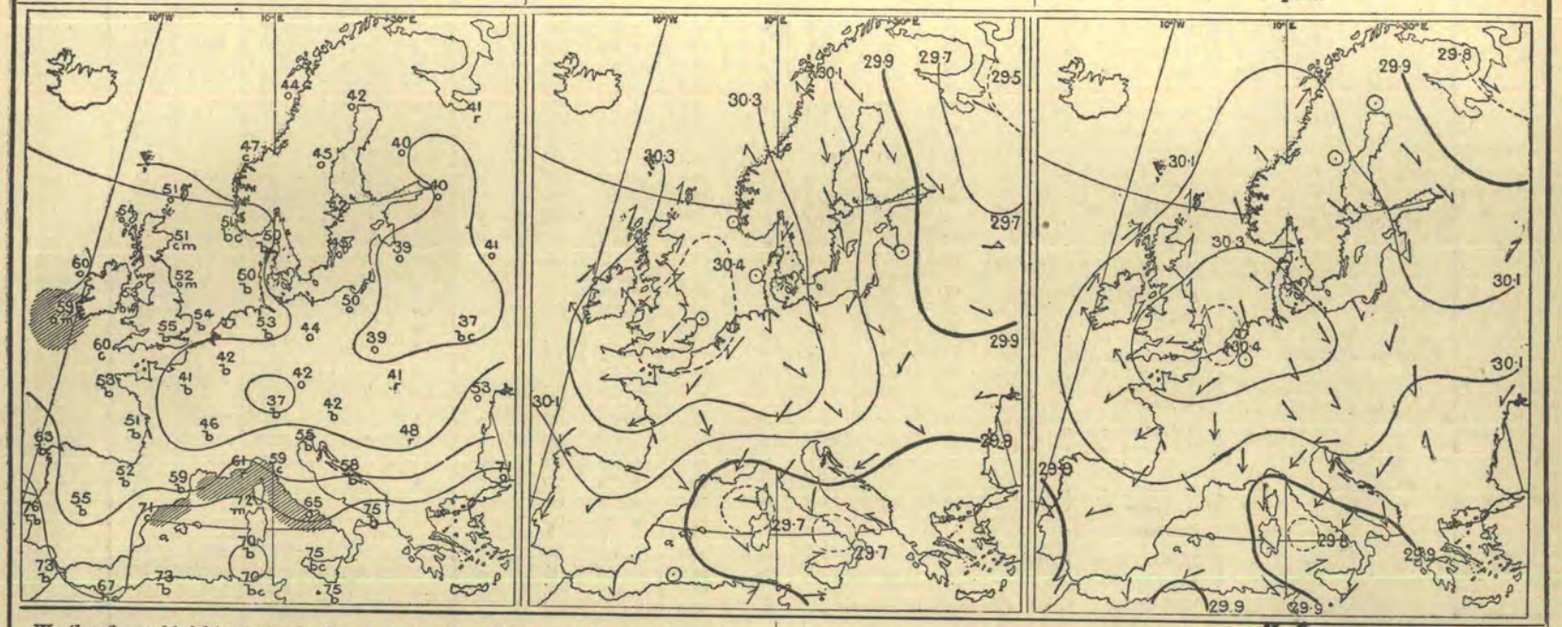
Barometer highest (30·3 ins. to 30·5 ins.) in a large anticyclone over our Islands and their neighbourhood; lowest, 29·5 ins. and less, in a new depression near Archangel, 29·6 ins. and less in another depression lying a little to the south-eastward of Riga, 29·9 ins. and less in a third over northern Italy and neighbouring parts of the Adriatic and Mediterranean, and about 30·0 ins. off the west of Portugal. Depressions near Riga and Oporto filling up later, that over Mediterranean and Italy growing larger and deeper.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 16th September.

Temperature and Weather. **Barometer and Wind.**

8 a.m. **8 a.m.** **6 p.m.**



Weather fine and bright over nearly the whole of western Europe and England, cloudy elsewhere; unsettled over north-eastern and eastern Europe, with rain in places. Cold rains over Russia and the eastern parts of Austria and Germany during day (newspapers report snow), and some rain beginning to fall in the extreme west of Ireland.

Temperature continuing low generally, especially over Poland, western and central Russia, and giving way considerably over Spain, Italy, and south of France. Morning readings as low as 37° at Munich, 41° at Paris, 42° at Brussels and 59° at Florence; exceeding 70° over Algeria and extreme south of Italy only. Daily maxima exceeding 90° in Algeria, exceeding 80° at Malta, Palermo, and Madrid, lower elsewhere; very little above 50° in Austria and Germany, but exceeding 60° over the greater part of the British Islands. Frost on ground over England at night.

Wind still Northerly, but moderating, over Scandinavia, the Baltic, Russia, and Poland; North-Easterly over Austria, Switzerland, and northern Italy; light Northerly over France and western Germany. Becoming Easterly, light to moderate, over the Channel and Bay of Biscay; Southerly, strong, in Ireland, very light and variable over England. Northerly wind over Russia lulling to almost a calm; very little change elsewhere.

Barometer still high over north-western Europe and the British Isles; depressions over Russia disappearing, but that over Mediterranean still holding, though undergoing modifications in form. Anticyclone over north-western Europe moving south-eastwards, and barometer falling throughout the British Islands, rising over Russia and Germany.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

In the course of this week important changes have taken place in the distribution of pressure, and consequently in the winds and weather prevalent over Europe. At first a large high pressure system covered Spain, France, central Europe, and Russia, and gradients for Southerly winds were found over the western parts of the British Isles. On the 11th pressure gave way over northern Russia, and the high-pressure system was confined to the British Isles and western Europe; North-Westerly winds consequently began to set in over the Baltic accompanied by a decrease of temperature. On the 13th, a new high-pressure area advanced to our Islands from the westward, and united with that previously existing; at the same time several depressions were developed over southern, eastern, and northern Europe, and strong cold northerly winds set in over nearly the whole of the Continent, accompanied by dry weather in the west, but by much cold rain (and in some localities snow) over northern and eastern Europe. At the close of the week the anticyclone was beginning to move eastwards across the British Islands, the depressions in the east and south were filling up, and, while the weather in those localities was improving, frosts were being experienced on the grass over the inland parts of the British Isles, and southerly breezes were beginning to set in over Ireland.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
September 9th	Scarborough	—	—	—	—	—	—	—	—	—	—	—	27·0	29
„ 9th	Laudale	70	51	65·5	55·1	60·1	+ 4·8	127	0	3	0·44	−1·05	*	*

III.—DATA from which the SUMMARY on page 217 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	61	43	54·3	46·6	50·3	− 1·2	58	0	2	0·51	−0·29	*	*
	Stornoway	63	40	59·0	49·0	53·8	+ 2·5	83	0	4	0·94	−0·01	21·6	24
	Wick	62	38	57·4	46·7	51·8	− 0·4	69	0	2	0·58	−0·02	*	*
	Lairg	66	44	61·1	48·1	54·3	+ 2·8	86	0	1	0·45	−0·20	*	*
	Glencarron	63	37	60·5	45·3	52·5	+ 0·9	74	0	4	0·45†	−1·15	10·5	12
	Fort Augustus	65	34	61·2	47·7	54·1	+ 0·5	85	0	1	0·01†	?	*	*
1. SCOTLAND, E.	Nairn	69	39	61·6	47·3	54·1	+ 1·1	85	0	3	0·67	−0·56	*	*
	Aberdeen	69	41	60·4	50·7	55·3	+ 2·3	93	0	2	0·07	−0·69	16·9	19
	Braemar	66	40	60·6	47·4	53·7	+ 3·5	82	0	1	0·04	−0·84	19·5‡	22‡
	Ochtertyre	73	40	63·9	51·3	57·3	+ 4·0	107	0	4	0·29	−0·61	*	*
	Leith	72	39	62·9	51·6	57·0	+ 2·4	105	0	1	0·12	−0·47	*	*
	Marchmont	65	39	59·7	49·7	54·5	+ 1·9	88	0	3	0·30	−0·55	8·0	9
2. ENGLAND, N.E.	Alnwick Castle	67	42	60·6	50·0	55·1	+ 1·6	92	0	2	0·32	−0·39	*	*
	Durham	71	45	62·5	52·0	56·9	+ 2·2	104	0	3	0·26	−0·34	16·6	19
	Shields	70	48	61·4	53·1	57·1	+ 2·9	106	0	2	0·35	−0·25	*	*
	Scarborough	73	49	63·4	53·5	58·2	+ 2·9	113	0	2	0·05	−0·65	‡	‡
	York	74	41	66·0	51·1	58·2	+ 2·6	113	0	2	0·10	−0·59	14·3	16
	Spurn Head	74	51	64·1	55·6	59·7	+ 3·9	124	0	2	0·03	?	*	*
3. ENGLAND, E.	Hillington	77	44	67·8	51·5	59·3	+ 3·2	121	0	0	—	−0·70	20·4	23
	Yarmouth	75	48	65·0	54·9	59·7	+ 2·4	124	0	1	0·01	−0·73	*	*
	Geldeston	79	41	68·1	51·3	59·3	+ 1·9	121	0	1	0·04	−0·60	26·6	30
	Cambridge	80	46	70·1	52·0	60·6	+ 2·4	130	0	0	—	−0·58	31·7	36
	Rothamsted	78	46	68·1	50·9	59·1	+ 1·9	120	0	1	0·01	−0·68	*	*
	Ingatestone	78	46	69·5	53·4	61·1	+ 3·5	134	0	0	—	−0·59	*	*
4. MIDLAND	Bawtry (Hesley Hall)	75	45	67·6	52·3	59·6	+ 3·3	123	0	2	0·07	−0·57	16·6‡	18‡
	Loughborough	78	45	69·1	54·1	61·2	+ 4·8	134	0	1	0·01	−0·69	23·6‡	27‡
	Cheadle	73	45	64·4	51·6	57·7	+ 2·5	110	0	2	0·03	−0·82	*	*
	Churchstoke	77	39	68·2	50·3	58·8	+ 3·1	118	0	0	—	−0·70	29·1	33
	Hereford	78	46	68·8	52·7	60·4	+ 3·8	129	0	1	0·01	−0·74	*	*
	Cirencester	83	40	70·6	50·9	60·3	+ 3·5	128	0	0	—	−0·82	29·5	34
	Oxford	80	43	69·9	53·0	61·0	+ 3·7	133	0	0	—	−0·68	33·0	38
5. ENGLAND, S.	London	81	49	72·6	54·7	63·2	+ 4·7	148	0	0	—	−0·60	38·4‡	44‡
	Strathfield Turgiss	80	36	72·3	50·7	61·0	+ 3·4	133	0	0	—	−0·66	*	*
	Dungeness	76	47	69·7	54·7	61·8	+ 3·5	139	0	1	0·01	−0·65	*	*
	Hastings (St. Leonard's)	78	48	67·6	55·2	61·1	+ 3·1	134	0	0	—	−0·69	59·8	68
	Southampton	84	43	72·9	53·1	62·5	+ 5·2	144	0	0	—	−0·78	41·5	47
	Hurst Castle	74	48	69·3	55·3	62·0	+ 4·2	140	0	0	—	−0·78	*	*
	Stowell	77	41	67·1	51·4	58·9	+ 2·1	118	0	0	—	?	40·4‡	46‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	67	46	62·6	53·0	57·6	+ 3·5	109	0	3	0·23†	−1·44	*	*
	Glasgow	68	41	61·4	51·5	56·2	+ 2·3	99	0	4	0·28	−0·69	3·8	4
	Ardrossan	65	43	61·9	53·7	57·6	+ 2·9	109	0	2	0·16	−0·74	*	*
	Glenlee	68	36	60·9	49·5	54·9	+ 1·9	90	0	3	0·34	−0·91	*	*
	Douglas (Isle of Man)	66	40	60·9	51·1	55·8	+ 2·1	97	0	4	0·25	−0·65	18·1	20
7. ENGLAND, N.W.	Newton Reigny (Penrith)	70	40	62·5	48·6	55·2	+ 1·5	92	0	2	0·17	−0·64	13·2	15
	Barrow-in-Furness	68	47	61·4	54·1	57·6	+ 1·9	109	0	3	0·33	−0·57	*	*
	Stonyhurst	71	44	62·8	52·3	57·3	+ 2·2	107	0	3	0·29	−0·90	18·1	20
	Blackpool	73	45	63·9	52·5	57·9	+ 2·0	111	0	2	0·09	−0·81	18·2	20
	Manchester	72	43	64·4	52·8	58·3	+ 2·3	114	0	2	0·12	−0·86	*	*
	Liverpool Obsy (Bidston)	73	47	64·1	54·9	59·3	+ 2·4	121	0	3	0·06	−0·76	*	*
	Llandudno	72	47	65·9	54·8	60·1	+ 2·3	127	0	1	0·03	−0·73	25·9	29
	Holyhead	68	46	62·9	54·9	58·7	+ 1·4	117	0	2	0·06	−0·72	*	*
8. ENGLAND, S.W.	Llandovery	84	37	72·4	49·4	60·3	+ 3·9	128	0	0	—	−1·19	*	*
	Pembroke	64	49	62·6	55·7	59·0	+ 4·0	119	0	2	0·04	−0·87	25·7	29
	Arlington (N. Devon)	79	42	67·6	52·0	59·4	+ 3·3	122	0	0	—	−1·25	*	*
	Cullompton	80	40	69·0	48·7	58·3	+ 0·6	114	0	0	—	−0·90	36·0	41
	Falmouth	73	49	64·8	53·6	58·8	+ 0·5	118	0	2	0·03	−1·16	42·8	49
	Plymouth	72	48	68·3	53·7	60·7	+ 1·9	131	0	0	—	−0·99	47·1	53
	Prawle Point	76	48	67·9	54·3	60·8	+ 4·9	132	0	0	—	?	*	*
9. IRELAND, N.	Malin Head	69	53	61·9	54·4	58·0	+ 4·5	112	0	5	0·81	?	*	*
	Londonderry	76	52	65·5	53·6	59·3	+ 4·8	121	0	5	0·43	−0·45	*	*
	Mullaghmore	76	53	65·1	55·1	59·9	+ 4·3	125	0	2	0·43	−0·68	*	*
	Belmullet	75	50	64·9	55·1	59·8	+ 5·2	125	0	3	0·39	?	*	*
	Markree Castle	75	49	64·4	52·5	58·2	+ 2·6	113	0	3	0·72	−0·03	16·1	18
	Brookeborough	71	49	63·0	53·0	57·8	+ 2·4	111	0	3	0·93	?	*	*
	Armagh	70	50	63·5	54·0	58·5	+ 3·2	116	0	3	0·83	+0·11	11·7	13
	Donaghadee	70	53	62·1	55·4	58·6	+ 4·2	116	0	2	0·63	−0·11	*	*
	Edgeworthstown	74	50	64·9	53·0	58·7	+ 2·3	117	0	3	0·92	+0·12	*	*
10. IRELAND, S.	Dublin	70	54	64·3	56·4	60·2	+ 4·7	127	0	2	0·02	−0·58	14·0	16
	Parsonstown	75	51	65·6	55·3	60·2	+ 3·5	127	0	2	0·19	−0·62	19·9	22
	Kilkenny	70	48	63·9	54·6	59·0	+ 2·8	119	0	2	0·10	−0·66	*	*
	Waterford	68	45	65·0	54·0	59·2	+ 3·3	120	0	2	0·06	−0·84	*	*
	Roche's Point	65	50	62·7	55·6	59·0	+ 2·5	119	0	3	0·50	−0·50	*	*
	Valencia	70	50	65·0	54·6	59·6	+ 2·8	123	0	4	0·86	−0·26	29·1	33
	Killarney	72	42	65·5	53·3	59·1	+ 2·3	120	0	2	0·73	?	*	*
	Foynes	73	47	?66·6	?52·2	?59·1	+?2·4	?120	0	3	0·34	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	67	56	64·6	57·6	60·9	+ 2·1	132	0	1	0·01	−0·84	*	*
	Jersey	78	52	70·9	55·4	62·8	+ 2·8	146	0	0	—	−0·80	66·9	76

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked S with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 38.] *Third Series.* WEEK ENDING MONDAY, 23RD SEPTEMBER, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 228.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	63	32	51·9	42·0	46·7	4 below.	33	−30	0	0	1789	+193	514	+ 4
	1. SCOTLAND, EAST	62	29	54·9	40·4	47·3	4 below.	44	−31		+	2080	+ 22	552	+ 9
	2. ENGLAND, N.E.	63	33	56·5	40·5	48·1	6 below.		−35	4	+ 4	2226	+ 17	493	+ 11
	3. ENGLAND, EAST	67	32	57·8	38·9	47·8	8 below.	54	−40	9	+ 9	2540	− 14	628	+121
	4. MIDLAND COUNTIES	66	31	57·8	38·9	47·9	7 below.	54	−45	9	+ 9	2319	− 11	573	+ 68
	5. ENGLAND, SOUTH	67	31	59·9	42·1	50·6	6 below.	60	−42	0	0	2774	+ 28	448	+ 75
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	59	30	54·5	41·5	47·7	5 below.	42	−38	1	+ 1	2214	+ 54	376	− 22
	7. ENGLAND, N.W.	65	28	56·1	43·5	49·5	5 below.	53	−34	0	0	2357	+ 51	382	− 1
	8. ENGLAND, S.W.	67	31	58·6	44·4	51·2	5 below.	64	−36	0	0	2551	− 52	321	+ 88
	9. IRELAND NORTH	63	34	55·4	45·2	50·1	4 below.	57	−23	0	0	2289	+ 47	297	− 53
	10. IRELAND, SOUTH	65	38	58·3	46·8	52·2	3 below.	71	−29	0	0	2540	+ 15	225	− 14
	— CHANNEL ISLANDS	65	43	61·2	52·0	56·4	2 below.	101	−11	0	0	2900	+101	77	− 16

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 228.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	6	17	5 more.	174	+14	29·2	+0·1	18	15	826	−209	23	− 6
	1. SCOTLAND, EAST	4	5	3 less.	140	+ 2	19·0	−3·9	34	40	1066	−114	30	− 3
	2. ENGLAND, N.E.	3	3	4 less.	128	− 5	17·0	−2·5	40	7	999*	− 84	28	− 3
	3. ENGLAND, EAST	3	7	0 (average).	133	− 2	18·7	+0·5	46	55	1125	−193	32	− 6
	4. MIDLAND COUNTIES	4	11	4 more.	125	− 8	21·2	+0·3	40	47	1045	−131	30	− 4
	5. ENGLAND, SOUTH	3	5	2 less.	126	− 2	16·9	−2·3	40	43	1119	−146	32	− 4
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	5	15	5 more.	149	0	28·8	−4·0	35	42	1113	− 29	31	− 1
	7. ENGLAND, N.W.	5	16	7 more.	134	− 4	22·1	−2·1	34	40	1086	− 61	31	− 1
	8. ENGLAND, S.W.	5	15	4 more.	134	−11	24·1	−5·8	37	44	1279	− 90	37	− 2
	9. IRELAND, NORTH	6	10	1 more.	166	0	27·3	+1·9	22	26	937	−121	26	− 4
	10. IRELAND, SOUTH	6	9	0 (average).	149	− 6	26·2	−1·8	27	31	1165	− 46	33	− 1
	— CHANNEL ISLANDS	5	5	4 less.	140	−16	17·9	−4·1	42	50	1470	−151	42	− 5

General Remarks.

Weather has been in an unsettled, changeable condition very generally. Over Ireland and the north of Scotland the sky has been mostly cloudy or overcast and the rainfall frequent, but elsewhere, although a considerable quantity of rain has fallen, several fine bright intervals have been experienced. Thunder and lightning occurred in some parts of England on the 20th.

Temperature has been below the mean in all districts. In the "Channel Islands" the deficit is only 2° and in "Ireland, S." 3°, but in nearly all other parts of the Kingdom the average value for the week has been from 5° to 7° below the normal for the time of year, while in "England, E." the deficit is as much as 8°. The highest of the maxima, which were recorded during the earlier days of the period, ranged from 59° in "Scotland, W." to 67° over eastern, southern, and south-western England. Towards the close of the week the maxima were much lower; at a few stations they were below 50°. The lowest of the minima were registered either at the commencement or end of the period, and varied from 28° in "England, N.W." and 29° in "Scotland, E." to 34° in "Ireland, N.", 38° in "Ireland, S.", and 43° in the "Channel Islands".

Rainfall has been less than the mean in the east of Scotland, and in the north-east and south of England, as well as in the "Channel Islands", but in nearly all other districts an excess is shown.

Bright sunshine has been more prevalent generally than it was last week, but has still been deficient in the north of Scotland and over Ireland. The percentage of the possible amount of duration varied from 40 to 55 over the greater part of the Kingdom, but in Ireland it ranged between 26 and 31, while in the north of Scotland only 15 % was recorded.

Barometer and Wind.—The changes in barometric pressure during this period have been more considerable and decided than of late. Although no depressions of any great importance have passed immediately over our Islands, the barometer has been affected by some large systems in our neighbourhood,— at first they were to the westward and north-westward of us, subsequently to the north-eastward and eastward, and finally to the westward again. Moderate to fresh Southerly and South-Westerly winds were consequently prevalent during the earlier part of the period, and, later on, fresh to strong winds from between North-West and North, but towards the end of the week the wind in Ireland and England backed to the Southward or South-Westward.

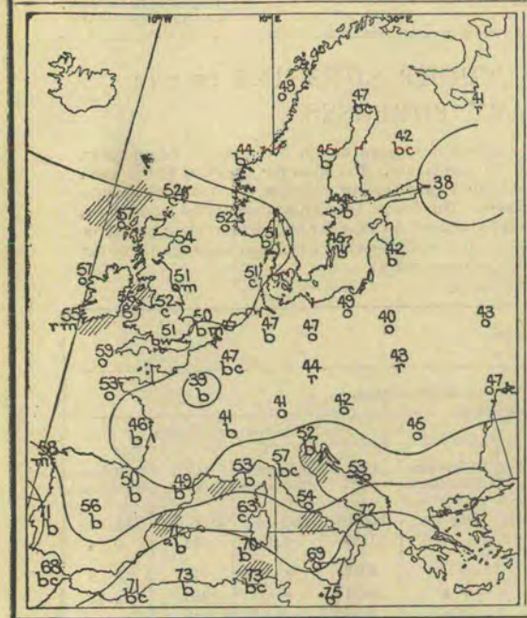
* This value has been altered owing to the receipt of further information.

60090. 350.—9/89. Wt. 36. E. & S.

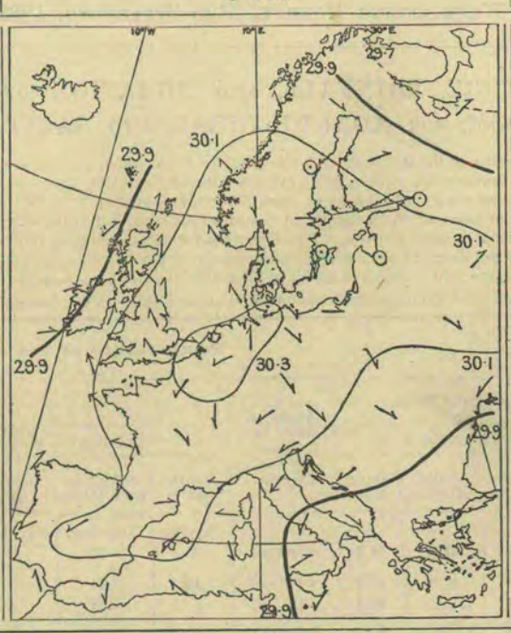
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 17th September.

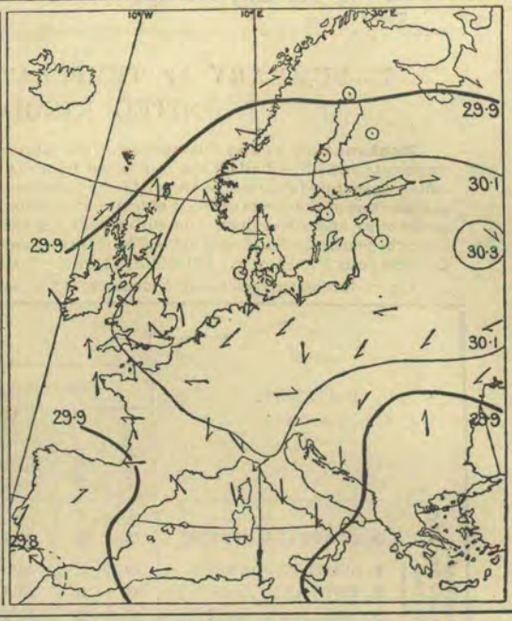
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather dull in Ireland and the west of Scotland, as well as in Russia, Austria, Germany, and the south of Italy, with rain in many places. Fine in most other localities, but hazy in the east of England. Heavy snow falling during day in some of the mountain districts of Austria and eastern Germany.

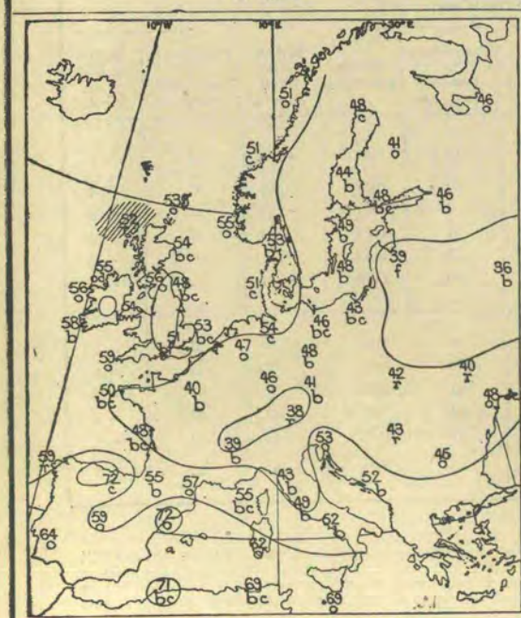
Temperature highest, 70° or a little above, over the central and southern parts of the Mediterranean; lowest, 40° or less, in some parts of northern and central Europe. Daily maxima below 60° at many of our own western and northern stations, but thermometer rising above 70° in some parts of France and above 80° over Spain and central Algeria, the highest reading of all being 95° at Biskra. Ground frost occurring over the inland parts of England at night.

Wind Southerly over the greater part of the United Kingdom and strong in force at some of our western stations, but light from West-South-West in the extreme west of Ireland. Light South-Easterly in the west of Norway; Westerly in Russia; North-Easterly over southern Europe. No important change occurring during day.

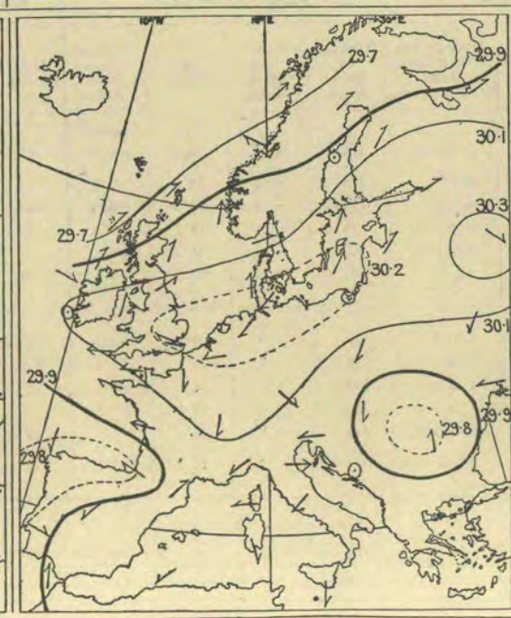
Barometer highest, 30·3 ins. and upwards, over the Netherlands and the north-east of France, but high over all the more central parts of the Continent. Lowest, 29·7 ins. and less, over the extreme north of Russia, but low, 29·9 ins. and less, over the Black Sea, Turkey, Greece, and the south of Italy, as well as in a large depression lying to the westward of the British Islands. Depression in far west subsequently moving northwards, and barometer rising again in Ireland.

Wednesday, 18th September.

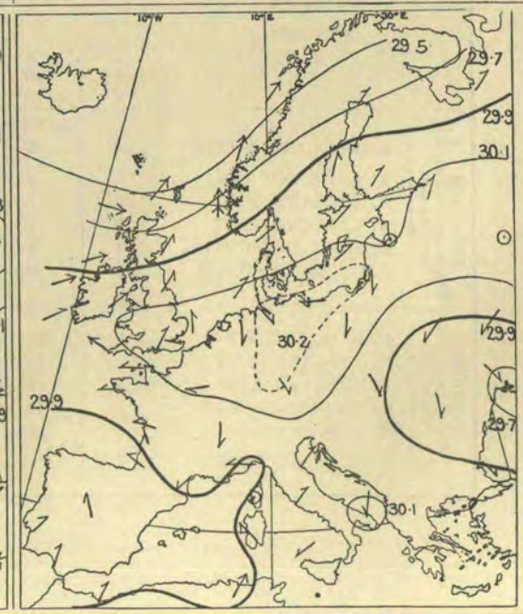
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather dull in the west of Norway and the extreme north of Russia, as well as over the greater part of Spain; raining in Austria, and also in the extreme north-west of our Islands. Fine in nearly all other localities, but fog or haze reported at some of the English stations. Rain falling later in all the more western and northern parts of our Islands, as well as at many of the Continental stations, thunderstorms occurring at Sanguinaire and La Calle, and a severe hailstorm at Algiers.

Temperature highest, 70° or a little above, at some of the Spanish and Mediterranean stations; lowest, 40° or less, over central Russia and some parts of Germany and Austria. Daily maxima again below 60° in the extreme north and north-west of our Islands, but thermometer rising above 70° in many parts of France and southern Europe, and above 80° in Algeria and the extreme south-west of France; highest reading of all being 84° at Sanguinaire, La Calle, and Biskra.

Wind light to fresh from the South-Westward over nearly the whole of northern Europe, but moderate from the Eastward over the Mediterranean, the Bay of Biscay, and the south of England. Cyclonic circulation of light breezes reported over Austria; light variable breezes over the Iberian Peninsula. No important change taking place during day.

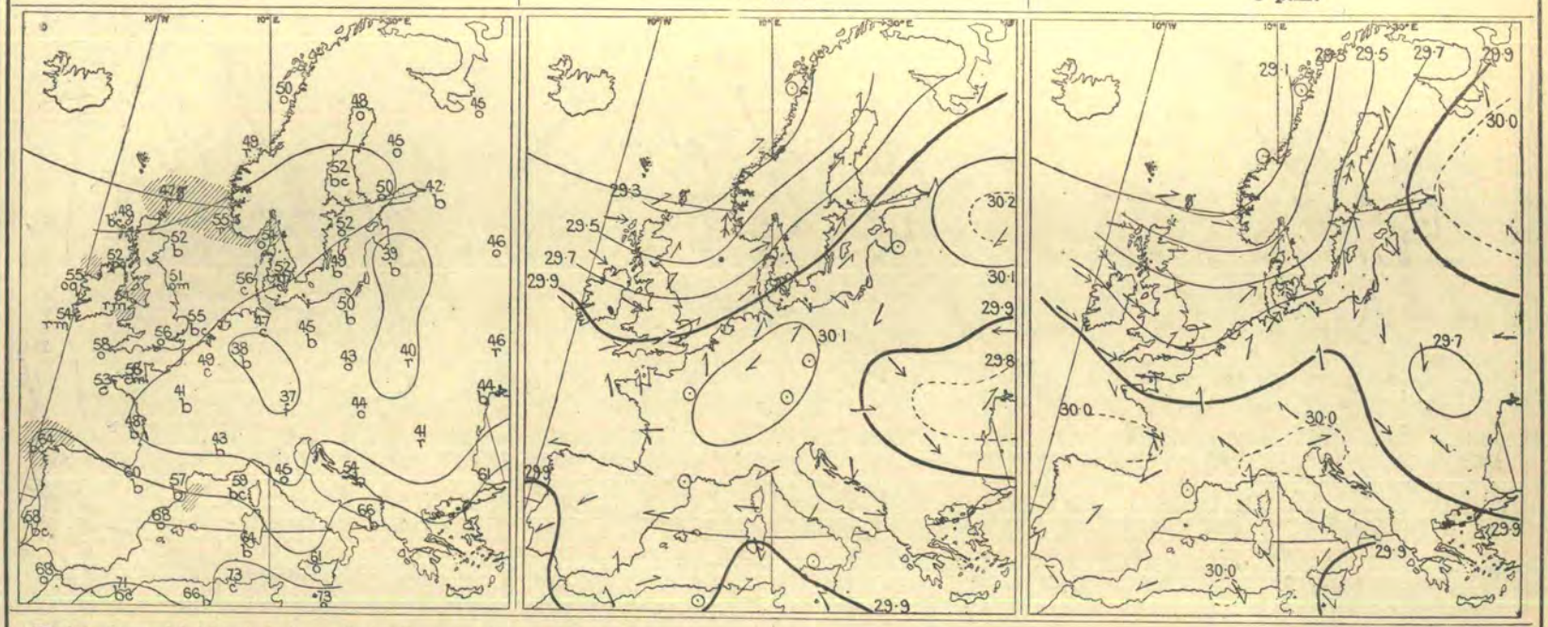
Barometer highest, 30·3 ins. and upwards, in the neighbourhood of Moscow, but high, 30·1 ins. and upwards, in a long and broad anticyclonic band extending from central Russia across the Baltic and central Europe to England and the south of Ireland. Lowest, 29·7 ins. and less, in a large area lying to the northward of our Islands, but well-marked depression with readings below 29·8 ins. lying over southern Austria. Austrian depression subsequently travelling eastwards to Black Sea.

II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 19th September.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine and bright at first over Spain, France, and the Baltic, but becoming very unsettled, squally, and rainy over the British Islands, North Sea, and Norway, and also over Austria-Hungary and southern Russia. Rain falling later throughout north-western Europe, and also over southern Russia, the fall being particularly heavy (1·2 ins.) at Fanö.

Temperature rising over France, the Baltic, Sweden, and the south of our Islands, falling elsewhere. Morning readings still exceeding 70° at some of the Algerian stations, much lower elsewhere; below 60° over our Islands, and below 50° over France, Germany, and Russia, as well as in the north of Scotland, and below 40° over south Germany and some parts of France. Daily maxima not reaching 80°, except in Algeria, and falling short of 60° over the greater part of the British Islands and Germany.

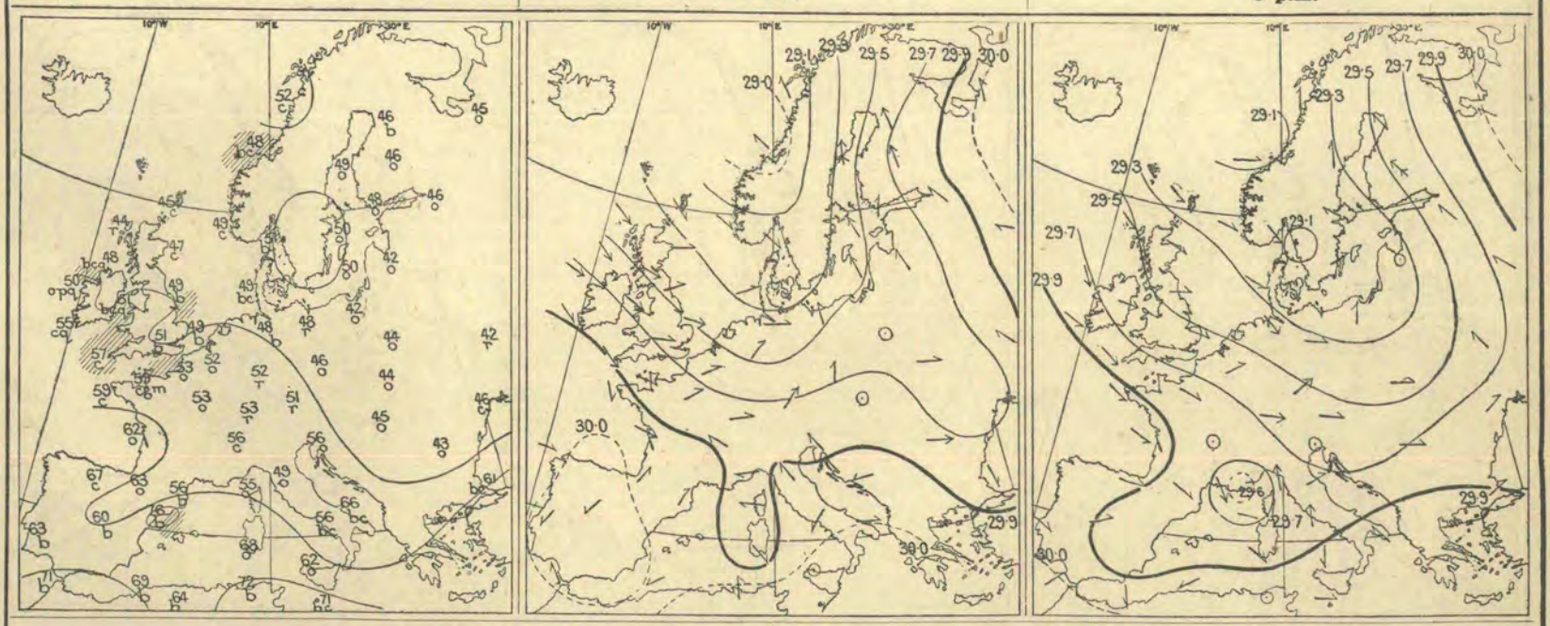
Wind strong and squally from the Westward over the United Kingdom, from South-Westward over the North Sea, and South-South-Westward in Scandinavia, moderate South-Westerly over the Baltic. Very light and variable over France, central Europe, and Russia, but tending to circulate round the depression over southern Russia, causing fresh North-Westerly winds in Austria and moderate Easterly at Kiev and Kharkov.

Barometer falling decidedly both over north-western and south-eastern Europe, rising a little elsewhere. Highest (30·0 ins. to 30·2 ins.) over France and the central parts of Germany and Russia, lowest to the northward of Scotland and over southern Russia. The northern low-pressure area moving eastwards to Scandinavia later, while that in the south-east moved north-westwards to western Russia and Hungary.

Friday, 20th September.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine in Spain, and fair at times in many other places, but on the whole changeable and showery. Rainfall considerable in several localities, especially in Sweden and Germany; thunder or lightning in Holland, the south-east of England, and some parts of Italy at night.

Temperature risen over France and southern Europe, fallen in our Islands, Denmark, and Scandinavia, and low over north-western Europe generally for the time of year. Morning values below 50° over Russia, Austria, Germany, some parts of Italy, and the northern parts of the British Isles and North Sea; above 50° over France, above 60° over Spain, and above 70° at some few of the Mediterranean stations. Daily maxima nearly all below 60° over the United Kingdom and in Germany, but higher in France; exceeding 80° at some of the south-western French stations, in Spain, and the south of Italy, and just touching 90° at Biskra (Algeria).

Wind strong over the northern countries, light in the south, veering to North-Westward over the British Islands and the west and north of France, but Southerly over Germany and the Baltic, and South-Easterly over Norway. Very variable over southern Europe and the Mediterranean. Backing to South-East over Finland later, and inclined to lull in our Islands, but hardly any other change of importance observed except over the Mediterranean, where a cyclonic circulation of wind became more clearly marked.

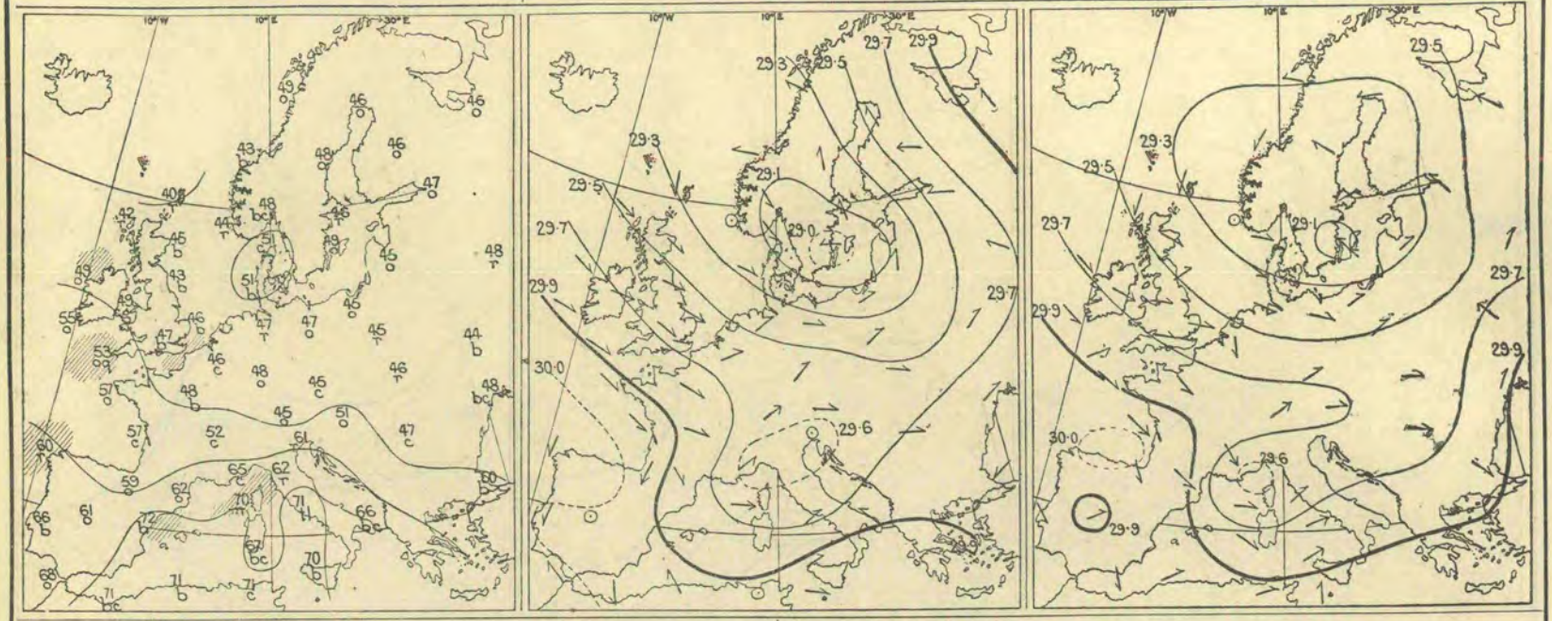
Barometer high, 30·0 ins. and more, both over Spain and central Russia; low over the North Sea and Scandinavia, minimum reading at 8 a.m. being below 29·0 ins. at Christiansund; shallow small depression over Mediterranean also. Scandinavian depression becoming more complex later, and that over Mediterranean growing rather deeper.

II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 21st September.

Temperature and Weather. **Barometer and Wind.**

8 a.m. **8 a.m.** **6 p.m.**



Weather fine in most parts of western Europe, but local showers reported over the United Kingdom. Dull in most of the northern, central, and eastern countries, with rain in many places and a thunderstorm at Rome. Showers falling later in nearly all parts of our Islands, and lightning seen at Shields at night.

Temperature highest, 70° or a little above, over the central and southern parts of the Mediterranean; lowest, 45° or less, in the northern and eastern parts of Great Britain, and also in some parts of central Europe. Daily maxima below 60° at nearly all our own stations, and below 50° in the north of Scotland, but thermometer rising above 70° in the south of France, above 80° in the south of Italy, and above 90° in central Algeria. Highest reading of all 95° at Biskra.

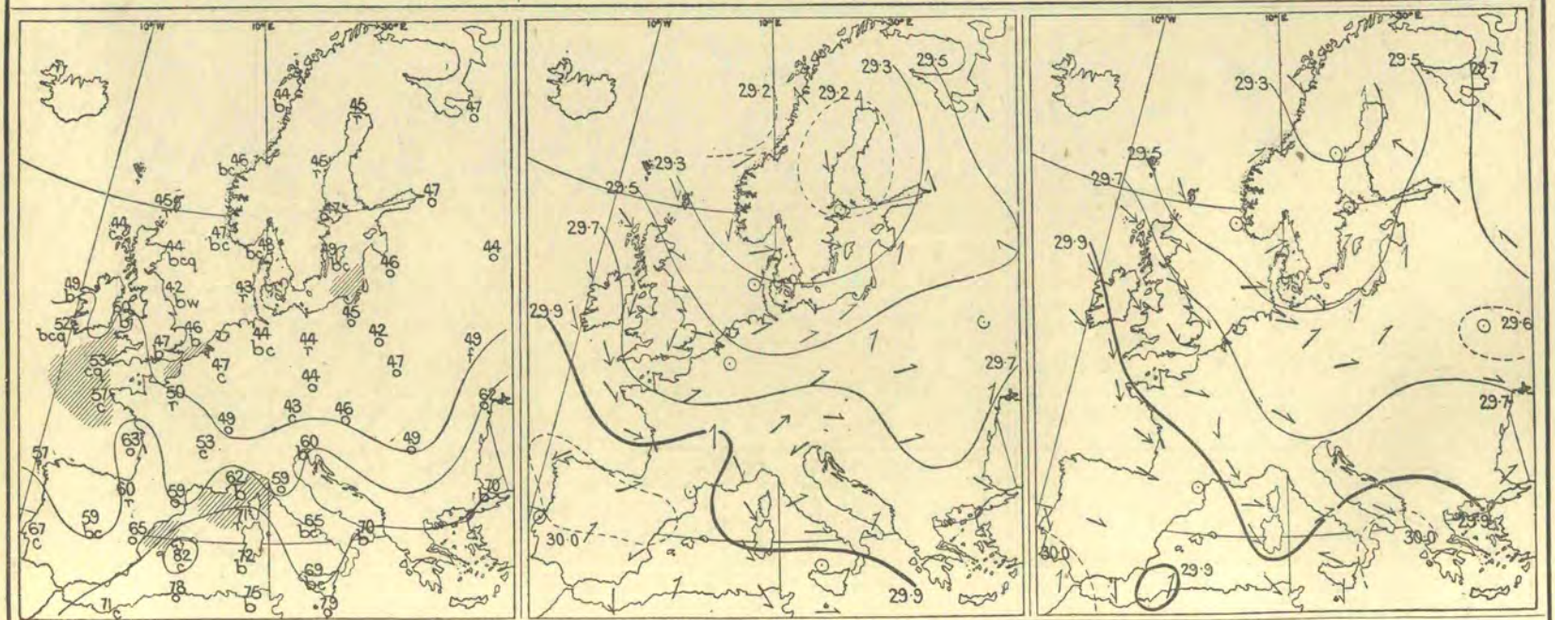
Wind light to fresh from the Westward or North-Westward over the greater part of western Europe, but chiefly South-Westerly over Italy, Austria, and Germany, and South-Easterly or Easterly over the northern parts of Russia and Scandinavia. Light and variable over the Iberian Peninsula; South-Easterly at most of the Algerian stations. South-Westerly wind subsequently increasing to a strong breeze in Italy.

Barometer highest, 30·0 ins. and upwards, in an anticyclone lying over the greater part of Spain. Lowest, 29·0 ins. and less, in a well-defined depression lying over the Baltic; low, 29·6 ins. and less, in another system lying over the northern parts of Italy and the Adriatic. Small shallow disturbances moving south-eastwards across our Islands during day, and barometer over western Europe changing irregularly.

Sunday, 22nd September.

Temperature and Weather. **Barometer and Wind.**

8 a.m. **8 a.m.** **6 p.m.**



Weather fine over the greater part of western and southern Europe, but showery in places and rainy in the Shetlands as well as over central France; dull over Sweden, Russia Germany, and Austria, with rain at several of the northern stations. Rain or passing showers occurring during day in all but the most southern countries.

Temperature highest, 75° and upwards, over some of the central and southern parts of the Mediterranean; lowest, 45° and less, in the north and east of Great Britain, the north of Scandinavia, and the central parts of Germany and Russia. Daily maxima below 55° in many parts of Great Britain as well as in Germany and the Netherlands, but thermometer rising above 70° in the south of France and above 80° in Spain, Algeria, and the south of Italy, the highest reading of all being 91° at Palermo. Sharp ground frost occurring at night over the inland parts of Great Britain and Germany.

Wind light to fresh from the North-Westward over our Islands, the North Sea, the Netherlands, and the north of France; moderate from the South-Westward in Germany; light to strong from the Southward or South-Eastward over central and northern Russia. Light and very variable over southern Europe and the Mediterranean. No important change occurring during day.

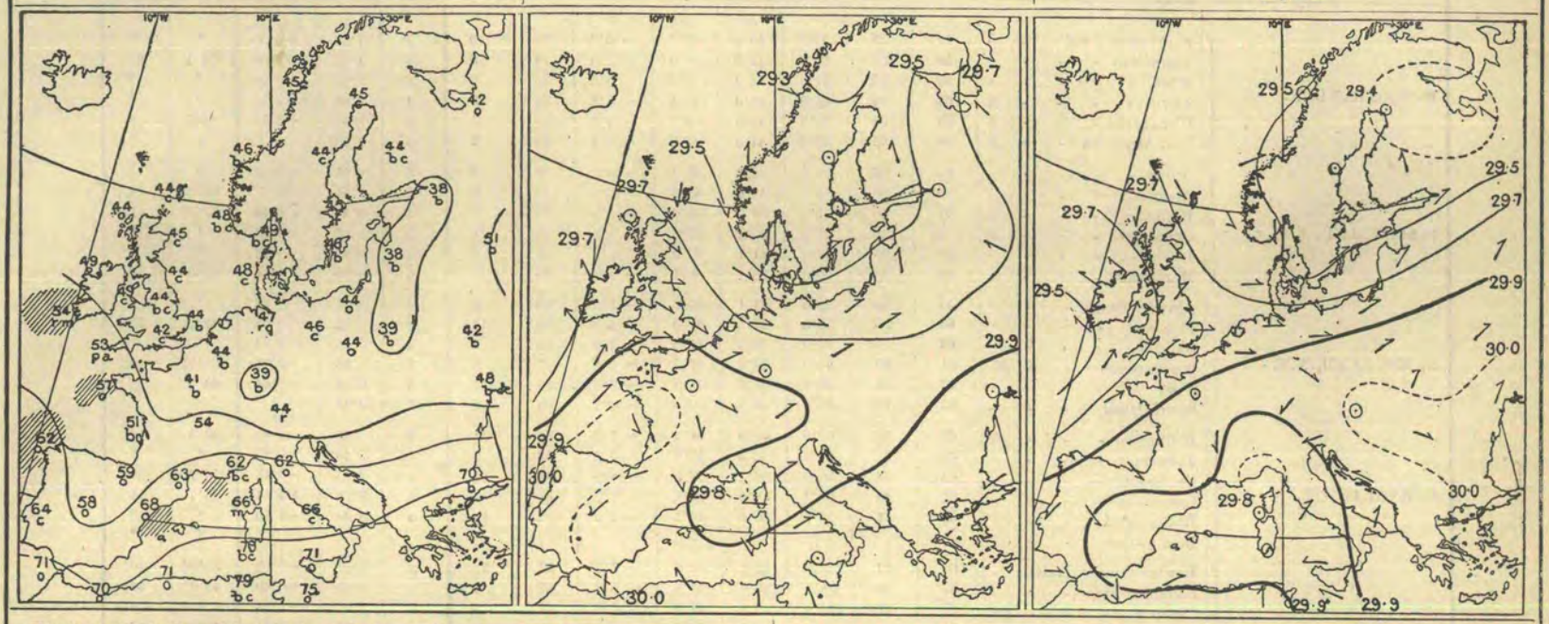
Barometer highest, 30·0 ins. and upwards, in an anticyclone lying over the north of Spain, as well as in a smaller area lying over Tunis; relatively high, 29·9 ins. and upwards, in another system lying over the south of Russia. Lowest, 29·2 ins. and less, in a large depression lying over Sweden and Finland, and also (apparently) in another disturbance lying off the west of Norway. Both disturbances filling up later, but small shallow depressions continuing to travel south-eastwards across our Islands.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 23rd September.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather rainy in the south-west of our Islands as well as at some of the German stations; dull in Spain, western Algeria, and northern Italy, as well as in the extreme north of Scotland. Fine in nearly all other localities. Rain extending gradually eastwards to almost all parts of the United Kingdom, amounts being large in England and Ireland. Lightning seen in London at night.

Temperature highest, 70° and upwards, over the central and southern parts of the Mediterranean; lowest, 45° or less, over the north and east of Great Britain, central Europe, and the central and northern parts of Russia. Daily maxima below 60° in nearly all parts of our Islands as well as in Germany and the Netherlands, but thermometer rising above 70° in Spain and the south of France, and above 80° in Algeria and the south of Italy, highest reading of all being 86° at Palermo.

Wind light to moderate from the North-Westward or Westward over France, the North Sea, and the eastern parts of Great Britain, from the South-Westward over Germany, and from the Southward or South-Eastward over central and northern Russia. North-Easterly in Spain, and variable in Algeria; faint cyclonic circulation shown over northern Italy and the extreme south of France. Subsequently increasing to a strong breeze from the Southward on our south-west coasts.

Barometer highest, 30·0 ins. and upwards, in two areas; one an irregularly shaped system extending from the Bay of Biscay to Algeria, the other lying over the Black Sea and its immediate neighbourhood. Lowest, 29·3 ins. and less, over the north of Scandinavia, but low, 29·7 ins. and less, in a depression lying to the westward of Ireland, and 29·8 ins. and less in a small disturbance lying near Nice. Depression off our western coasts subsequently advancing steadily eastwards, and barometer falling steadily in most districts.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

At the commencement of the week a large anticyclonic system covered the greater part of Europe, its central portion being located over the Netherlands and their immediate neighbourhood. Between the 17th and 20th, however, the high pressure area gradually dispersed, while a large, though not deep, depression skirted the extreme north and north-west coasts of our Islands, and travelled slowly on to Scandinavia and the Baltic. The advance of the latter system was marked by a gradual extension of South-Westerly and Westerly winds, and unsettled showery weather to nearly all parts of western Europe; but, as it travelled away, the wind drew into the North-Westward, while the sky cleared, and temperature fell decidedly. Owing, however, to the passage south-eastwards of numerous small secondary disturbances, the weather remained somewhat showery. By the close of the week the large depression over northern Europe had almost entirely dispersed; but a new system was approaching Ireland from the westward, and heavy rain was setting-in at many of our own stations, with increasing Southerly winds on our western and southern coasts. In the course of the period several depressions have appeared over various parts of eastern and southern Europe, but these have been in all cases of little importance.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
September 16th - - -	Scarborough - - -	—	—	—	—	—	—	—	—	—	—	—	12·8	14

III.—DATA from which the SUMMARY on page 223 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	57	38	51·3	43·4	47·2	− 3·4	36	0	7	1·39	+0·55	*	*
	Stornoway	58	37	51·3	42·9	46·9	− 3·3	34	0	6	1·87	+0·88	22·4	26
	Wick	60	35	51·9	42·9	47·2	− 3·6	36	0	6	1·22	+0·60	*	*
	Lairg ℳ	63	35	53·3	40·9	46·8	− 3·2	38	3	4	0·68	−0·12	*	*
	Glencarron ℳ	58	35	50·2	40·8	45·3	− 5·1	28	3	6	3·93†	+2·25	2·5	3
	Fort Augustus ℳ	58	32	53·2	41·3	47·0	− 5·4	38	2	6	0·80†	?	*	*
1. SCOTLAND, E.	Nairn	60	36	53·1	42·4	47·5	− 4·3	39	0	6	0·55	−0·08	*	*
	Aberdeen	60	37	54·7	43·4	48·8	− 3·0	48	0	2	0·51	−0·23	33·8	40
	Braemar ℳ	57	33	51·4	39·0	44·9	− 4·0	35	8	4	0·44	−0·46	27·5‡	32‡
	Ochtertyre ℳ	62	29	57·4	38·1	47·3	− 4·8	53	11	3	0·27	−0·66	*	*
	Leith ℳ	62	35	57·6	41·1	49·0	− 3·9	53	3	4	0·47	−0·12	*	*
	Marchmont ℳ	61	33	55·0	38·1	46·1	− 4·7	45	11	4	0·54	−0·31	40·3	47
2. ENGLAND, N.E.	Alnwick Castle	58	36	54·0	41·1	47·2	− 5·2	40	3	4	0·26	−0·44	*	*
	Durham	62	33	58·2	37·4	47·3	− 6·3	56	13	2	0·12	−0·48	42·7	50
	Shields	63	34	57·0	39·4	47·8	− 5·0	52	7	2	0·16	−0·44	*	*
	Scarborough ℳ	61	36	55·9	39·9	47·5	− 6·8	47	6	5	0·35	−0·35	34·1‡	40‡
	York	63	33	58·0	39·6	48·4	− 6·0	55	7	3	0·35	−0·34	44·5	52
	Spurn Head	63	42	56·0	45·6	50·6	− 4·1	60	0	2	0·41	?	*	*
3. ENGLAND, E.	Hillington ℳ	64	32	57·6	38·0	47·3	− 7·2	54	11	2	0·67	−0·03	42·4	50
	Yarmouth	59	35	56·0	42·3	48·6	− 7·2	46	0	4	0·48	−0·25	*	*
	Geldeston	64	33	58·6	38·1	47·9	− 8·0	58	11	2	0·54	−0·11	50·7	60
	Cambridge	67	35	59·9	39·4	49·2	− 7·7	61	7	4	1·10	+0·51	45·7	54
	Rothamsted	61	33	56·7	36·5	46·1	− 9·6	52	15	4	0·60	−0·10	*	*
	Ingatestone												*	*
4. MIDLAND	Bawtry (Hesley Hall)	64	32	57·3	38·0	47·2	− 7·7	53	11	3	0·67	+0·02	38·9‡	46‡
	Loughborough	66	34	58·7	40·0	48·9	− 6·8	57	6	4	1·40	+0·69	44·2‡	52‡
	Cheadle ℳ	60	37	54·2	40·5	47·0	− 6·6	41	4	5	1·98	+1·14	*	*
	Churchstoke ℳ	64	31	56·4	37·7	46·6	− 6·8	50	12	5	1·16	+0·44	39·6	47
	Hereford ℳ	66	32	58·4	38·9	48·2	− 5·7	56	9	4	1·03	+0·30	*	*
	Cirencester	66	31	61·1	37·7	48·8	− 5·5	66	12	4	1·02	+0·20	35·9	42
	Oxford	64	35	58·3	39·4	48·4	− 7·2	56	7	4	0·63	−0·05	41·8	49
5. ENGLAND, S.	London	67	35	60·0	40·3	49·7	− 7·3	61	5	4	0·47	−0·13	33·9‡	40‡
	Strathfield Turgiss ℳ	66	31	59·3	35·8	47·2	− 9·0	62	17	4	0·39	−0·28	*	*
	Dungeness	65	35	62·1	46·0	53·7	− 3·1	82	0	2	0·22	−0·47	*	*
	Hastings (St. Leonard's)	62	38	59·2	44·4	51·4	− 5·4	66	0	2	0·26	−0·46	46·2	54
	Southampton	64	35	60·9	41·3	50·6	− 5·2	63	2	4	0·53	−0·25	42·9	50
	Hurst Castle	64	40	59·9	47·0	53·1	− 3·6	78	0	3	0·61	−0·17	*	*
	Stowell ℳ	63	34	57·7	40·1	48·5	− 7·1	53	5	5	1·12	?	34·9‡	41‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	58	33	53·9	44·5	49·0	− 3·9	49	0	6	1·88†	+0·14	*	*
	Glasgow	59	34	54·0	41·5	47·5	− 5·4	41	1	2	1·05	+0·07	33·2	39
	Ardrossan	58	35	55·7	44·1	49·6	− 3·1	53	0	4	1·09	+0·19	*	*
	Glenlee S	59	30	53·1	36·4	44·4	− 8·3	40	16	5	1·15	−0·15	*	*
	Douglas (Isle of Man)	59	38	55·7	40·9	47·9	− 4·9	46	3	6	2·08	+1·16	37·6	44
7. ENGLAND, N.W.	Newton Reigny (Penrith)	60	28	55·0	37·0	45·6	− 6·9	46	14	4	0·94	+0·13	39·3	46
	Barrow-in-Furness	60	39	54·7	45·1	49·7	− 4·9	54	0	6	2·41	+1·50	*	*
	Stonyhurst	60	34	53·5	40·5	46·7	− 6·7	39	4	5	1·89	+0·69	33·6	40
	Blackpool ℳ	63	39	57·0	43·8	50·1	− 4·7	57	0	6	1·84	+0·91	35·9	42
	Manchester	62	35	55·6	41·1	48·0	− 6·4	46	3	4	1·27	+0·28	*	*
	Liverpool Obsy (Bidston)	65	42	56·6	46·1	51·1	− 3·7	64	0	6	1·44	+0·63	*	*
	Llandudno ℳ	65	42	59·2	46·0	52·4	− 4·3	73	0	6	1·73	+0·93	27·1	32
	Holyhead	65	45	57·0	48·0	52·3	− 4·2	72	0	4	1·47	+0·67	*	*
8. ENGLAND, S.W.	Llandovery	67	31	59·7	39·1	48·9	− 6·1	60	8	6	2·33	+1·13	*	*
	Pembroke	60	46	56·9	49·6	53·1	− 1·0	78	0	5	1·94	+1·02	34·1	40
	Arlington (N. Devon)	61	37	56·7	42·3	49·2	− 5·8	50	0	5	2·01	+0·77	*	*
	Cullompton ℳ	63	32	59·7	37·6	48·1	− 8·1	61	12	5	1·33	+0·42	40·8	48
	Falmouth	60	45	58·0	49·0	53·3	− 3·7	79	0	4	0·82	−0·42	37·1	44
	Plymouth	63	42	60·4	46·9	53·4	− 3·9	80	0	5	1·32	+0·33	35·7	42
	Prawle Point	61	42	59·0	46·0	52·2	− 2·7	71	0	4	0·59	?	*	*
9. IRELAND, N.	Malin Head	58	43	53·3	47·3	50·2	− 1·8	57	0	7	0·56	?	*	*
	Londonderry	62	39	55·2	44·3	49·6	− 3·4	53	0	6	1·63	+0·73	*	*
	Mullaghmore	62	42	56·1	48·7	52·2	− 2·1	71	0	6	0·89	−0·21	*	*
	Belmullet	59	43	55·4	48·6	51·8	− 1·8	69	0	7	0·93	?	*	*
	Markree Castle	59	35	55·2	44·0	49·3	− 5·1	51	0	6	1·48	+0·72	17·2	20
	Brookeborough	60	34	54·8	41·8	48·0	− 6·0	43	1	7	0·89	?	*	*
	Armagh	62	38	56·6	42·7	49·3	− 4·7	51	0	4	0·61	−0·13	26·9	32
	Donaghadee	62	43	55·7	46·6	50·9	− 2·3	62	0	6	0·68	−0·07	*	*
	Edgeworthstown	63	35	56·4	42·7	49·2	− 5·8	50	0	5	0·99	+0·19	*	*
10. IRELAND, S.	Dublin	62	40	57·2	44·8	50·7	− 3·6	61	0	5	0·76	+0·16	32·7	38
	Parsonstown	64	41	57·4	44·4	50·6	− 3·9	60	0	5	0·53	−0·27	27·3	32
	Kilkenny	65	38	57·4	43·6	50·2	− 4·8	57	0	5	0·45	−0·30	*	*
	Waterford	64	39	58·9	45·0	51·6	− 3·2	67	0	5	0·64	−0·27	*	*
	Roche's Point	62	45	59·3	50·0	54·4	− 1·0	87	0	5	0·85	−0·16	*	*
	Valencia	62	50	59·3	51·1	55·0	− 0·9	91	0	7	1·38	+0·23	20·8	24
	Killarney	64	45	58·4	48·0	53·0	− 2·8	77	0	6	1·44	?	*	*
	Foynes	64	44	58·3	47·1	52·4	− 3·3	73	0	7	1·25	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	63	50	60·0	52·9	56·3	− 1·7	100	0	5	0·45	−0·42	*	*
	Jersey	65	43	62·3	51·0	56·4	− 2·5	101	0	5	0·47	−0·37	42·1	50

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked S with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

(OFFICIAL COPY.)

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH AND HODGES FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VI. No. 39.] *Third Series.* WEEK ENDING MONDAY, 30TH SEPTEMBER, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 234.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	61	28	52·0	39·6	45·5	4 below.	35	−21	7	+ 6	1824	+172	521	+ 10
	1. SCOTLAND, EAST	63	30	54·3	40·6	47·1	3 below.	42	−24	4	+ 2	2122	− 3	556	+ 12
	2. ENGLAND, N.E.	65	35	54·7	43·6	48·9	3 below.	48	−25	0	− 1	2274	− 8	493	+ 11
	3. ENGLAND, EAST	65	35	56·2	44·0	49·8	5 below.	55	−26	0	0	2595	− 37	627 *	+120
	4. MIDLAND COUNTIES	65	34	57·0	43·4	49·9	3 below.	55	−28	0	− 1	2574	− 34	573	+ 67
	5. ENGLAND, SOUTH	67	32	59·2	45·0	51·8	3 below.	69	−20	0	− 1	2843	+ 8	448	+ 75
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	61	33	55·3	43·4	49·0	3 below.	49	−21	0	− 1	2263	+ 33	376	− 22
	7. ENGLAND, N.W.	66	34	55·5	45·9	50·5	3 below.	60	−15	0	0	2417	+ 34	382	− 1
	8. ENGLAND, S.W.	65	31	58·9	46·5	52·4	2 below.	73	−17	0	0	2624	− 66	321	+ 87
	9. IRELAND, NORTH	61	35	56·0	45·8	50·7	2 below.	61	− 9	0	− 1	2350	+ 37	297	− 53
	10. IRELAND, SOUTH	66	34	58·8	47·9	53·1	1 below.	78	− 2	0	− 1	2618	+ 11	225	− 14
	— CHANNEL ISLANDS	65	43	60·0	50·8	55·2	2 below.	92	−10	0	0	2992	+ 91	77	− 16

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 234.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	6	9	2 less.	180	+15	30·1	−0·1	14	18	840	−219	23	− 6
	1. SCOTLAND, EAST	5	4	4 less.	145	+ 3	19·5 *	−4·2	19	23	1085	−124	30	− 3
	2. ENGLAND, N.E.	5	6	0 (average).	133	− 4	17·6	−2·5	19	24	1018	− 92	28	− 3
	3. ENGLAND, EAST	5	14	8 more.	138	− 1	20·0 *	+1·2	15	18	1140	−214	32	− 6
	4. MIDLAND COUNTIES	3	5	3 less.	128	− 8	21·7	+0·1	21	25	1066	−141	30	− 4
	5. ENGLAND, SOUTH	3	7	1 less.	129	− 2	17·6	−2·3	22	26	1141	−157	32	− 5
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	4	7	4 less.	153	− 1	29·5	−4·3	35	42	1148	− 22	32	0
	7. ENGLAND, N.W.	5	10	1 more.	139	− 4	23·2 *	−1·9	27	32	1113	− 63	31	− 1
	8. ENGLAND, S.W.	4	2	9 less.	138	−11	24·3	−6·7	23	29	1302	− 97	36	− 3
	9. IRELAND, NORTH	5	8	0 (average)	171	0	28·1	+1·8	23	28	960	−122	27	− 3
	10. IRELAND, SOUTH	2	1	8 less.	151	− 8	26·3	−2·6	25	31	1190	− 50	33	− 1
	— CHANNEL ISLANDS	4	2	7 less.	144	−18	18·1	−4·8	34	41	1504	−155	42	− 4

General Remarks.

Weather has continued in an unsettled condition over Scotland, the greater part of England, and in the north of Ireland, but in the south of Ireland and at some of the south-western English stations it has been fair. Over the eastern parts of England the rainfall has been heavy.

Temperature has again been below the mean in all districts, the deficit having ranged from 1° in "Ireland, S." to 4° in "Scotland, N." and to 5° in "England, E." The highest of the maxima which were generally recorded on the 27th, varied from 61° in the north and west of Scotland and the north of Ireland, to 67° in "England, S." The lowest of the minima were registered during the earlier days of the period, and varied from 28° to 33° in Scotland, from 34° to 35° in Ireland, and from 31° to 35° over England. In the "Channel Islands" the lowest reading was 43°.

Rainfall has been more than the mean in "England, E." and "England, N.W." and about equal to it over north-eastern England and the north of Ireland, but in all other districts it has been less; over the south-west of England, the south of Ireland, and in the "Channel Islands" the fall has been very slight.

Bright sunshine has been less prevalent than it was last week in nearly all places, the percentage of the possible amount of duration having ranged from 18 in "England, E." and "Scotland, N" to 32 in "England, N.W.", 41 in the "Channel Islands", and 42 in "Scotland, W."

Barometer and Wind.—At the commencement of the period a depression lay off our south-western coasts, while the barometer was comparatively high both to the south-eastward and north-westward of our Islands. This disturbance subsequently moved away southwards, but a depression was formed over the east of England and travelled quickly north-eastwards over the North Sea during the night of the 24th—25th, at the same time becoming deeper. From this time no depressions of importance appeared immediately over us, but the mercury was affected by disturbances to the northward or north-eastward of our coasts. Moderate to fresh winds from the North-Westward have been generally experienced over the Kingdom, but on the 26th and 27th light to moderate breezes from between South-West and West were most prevalent.

* This value has been altered slightly in consequence of the receipt of further information.

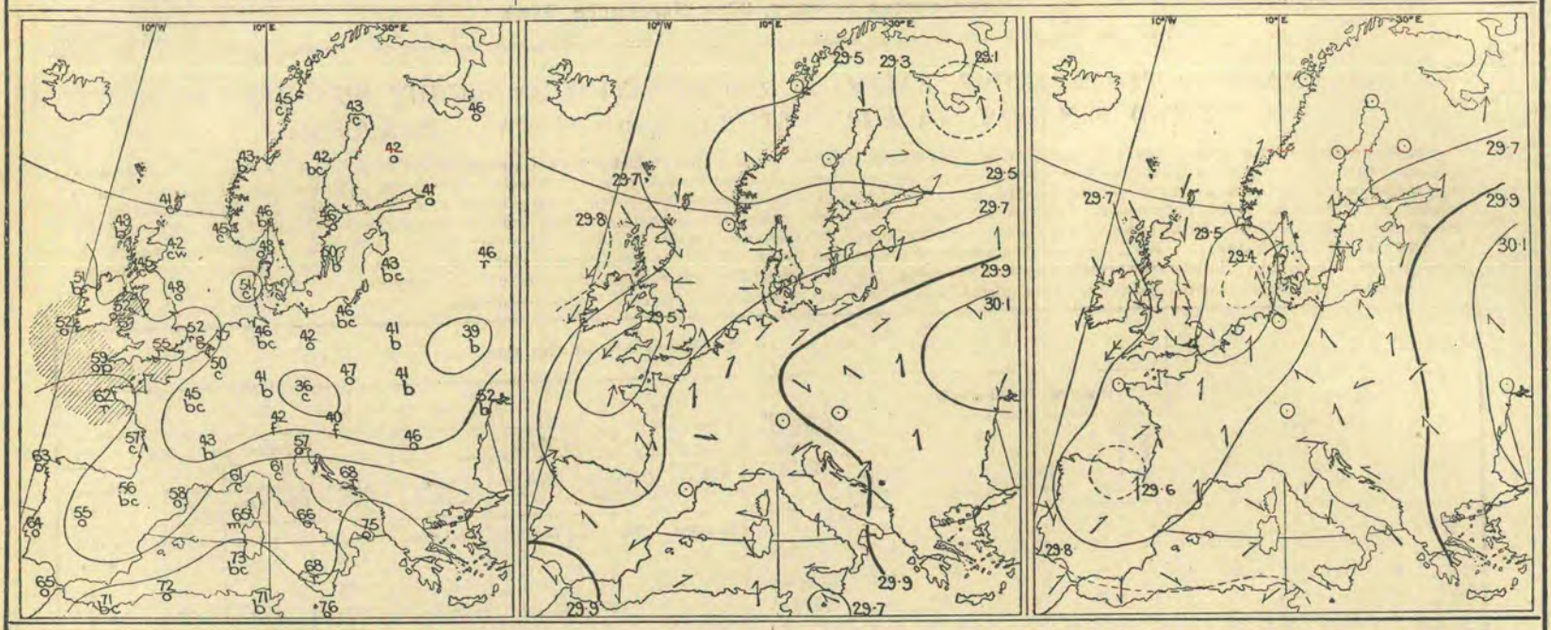
60141. 350.—10/89. Wt. 36. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 24th September.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine in Scandinavia and the north of our Islands, as well as in Algeria and the east and south of France. Cloudy or overcast elsewhere, with rain over England and the north-west of France, as well as at some of the Russian stations. Rain falling later in nearly all parts of north-western and northern Europe, as well as in Italy; amount large over the Netherlands and east of England.

Temperature highest, 75° and upwards, in the neighbourhood of the south of Italy; 70° and upwards over the central parts of the Mediterranean. Lowest, 40° or a little less, in some parts of central Europe. Daily maxima over our Islands below 60°, excepting in far south, and below 50° at some of our northern stations, but thermometer rising above 70° over the southern parts of France, and above 80° over Algeria and the south of Italy, highest reading of all being 86° at Algiers and Biskra.

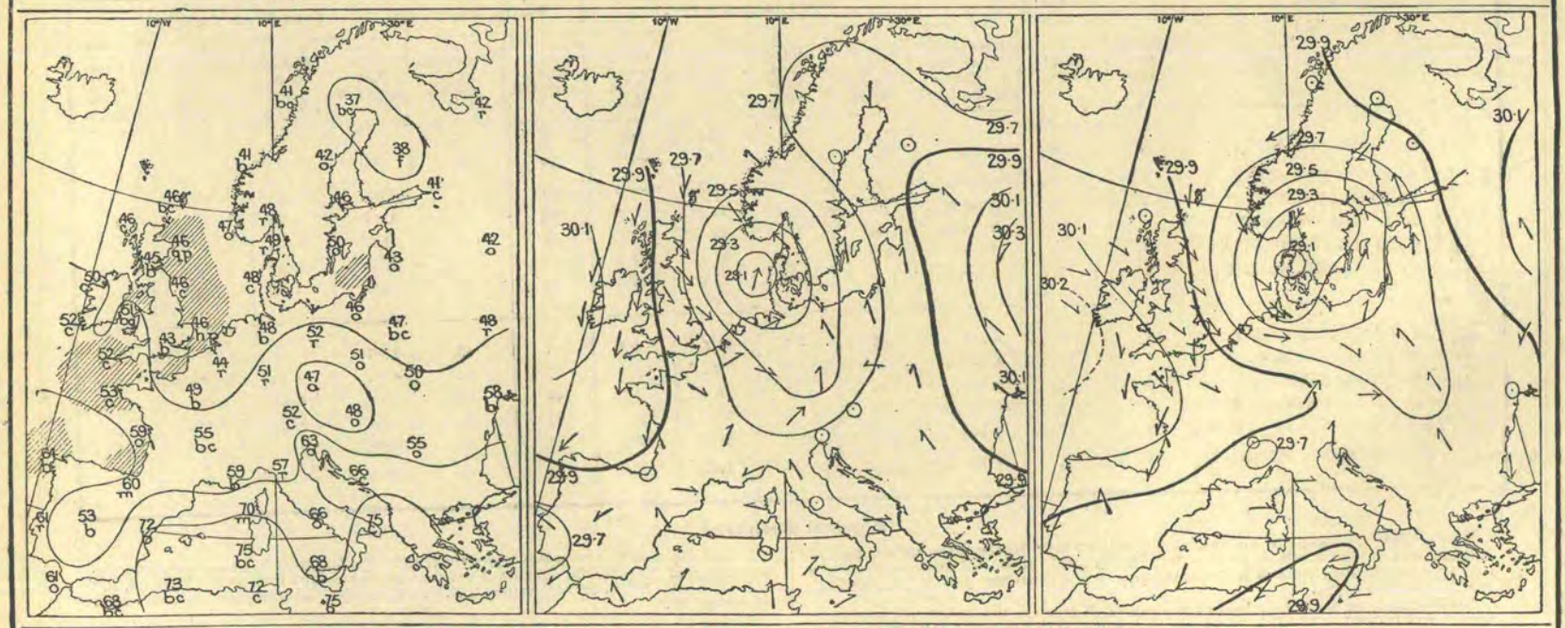
Wind light from the North-Westward or Northward in Scotland, fresh from the North-Eastward on our western coasts, and moderate to strong from the Southward or South-Eastward over the Channel and Bay of Biscay. Light from South-West over Germany, the Baltic, and Russia, as well as in Spain and Algeria; variable in Italy and the south of France. Subsequently increasing to a fresh gale from the Northward at the mouth of the Channel.

Barometer highest, 30·1 ins. and upwards, over the south of Russia; high, 29·9 ins. and upwards, over the extreme south of Spain. Lowest, 29·2 ins. and less, in a depression lying over the White Sea; 29·5 ins. and less, in another disturbance lying over the south-west of our Islands; 29·7 ins. and less, in a third lying near Malta. Depression over our south-west coasts subsequently moving southwards and dispersing, but new disturbance forming over the east of England, and travelling north-eastwards to North Sea.

Wednesday, 25th September.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine over the greater part of western Europe, as well as in Algeria, the north of Scandinavia, and the extreme south of Russia. Cloudy or overcast elsewhere, with rain in many places, and fog at Buda Pesth. Showers falling later in all the more northern parts of the United Kingdom, and heavy rain in the neighbourhood of the Skager Rack.

Temperature highest, 70° and upwards, over the central and southern parts of the Mediterranean; lowest, 40° or a little less, over Lapland and central Finland. Daily maxima again below 60° in nearly all parts of the United Kingdom, as well as in the Netherlands and north of France, but thermometer rising above 70° over southern Europe generally, above 80° in the south of Italy, and above 100° in some parts of central Algeria, highest reading of all being 108° at Laghouat. Sharp ground frost occurring at night over the inland parts of Great Britain and France.

Wind moderate to strong from the North-Westward or Northward over our Islands and their immediate neighbourhood, but South-Westerly or Southerly over Germany and the Baltic, and South-Easterly or Easterly in the south of Scandinavia. Easterly breezes also reported over Spain and the south of France; variable in Italy; chiefly Southerly in Algeria. Northerly and North-Westerly gales setting in later on eastern shores of North Sea, but wind falling light in our Islands, and backing to the Westward on our extreme western coasts.

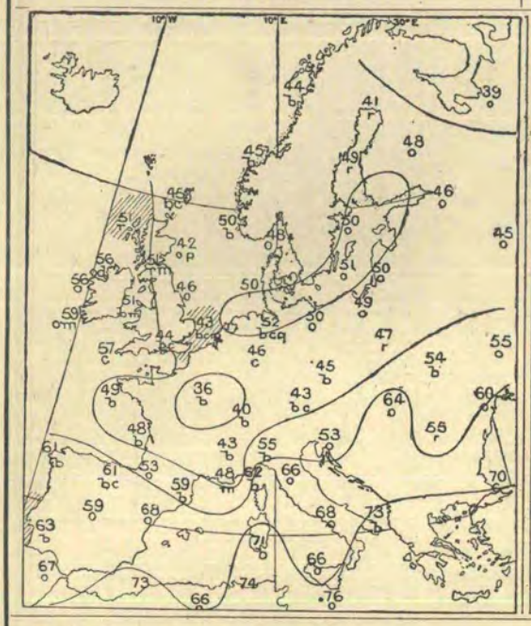
Barometer highest, 30·3 ins. and upwards, in a large anticyclone lying over central Russia; high, 30·1 ins. and upwards, in another system lying off the west of Ireland. Lowest, 29·0 ins. and less, in a well-defined and deep depression which had moved north-eastwards across the North Sea to the neighbourhood of Fanö; low, 29·7 ins. and less, in a shallow disturbance lying off the south-west of Spain. Depression off Danish coasts continuing to move north-eastwards during day; symptoms of new disturbance appearing in the extreme west of our Islands.

II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 26th September.

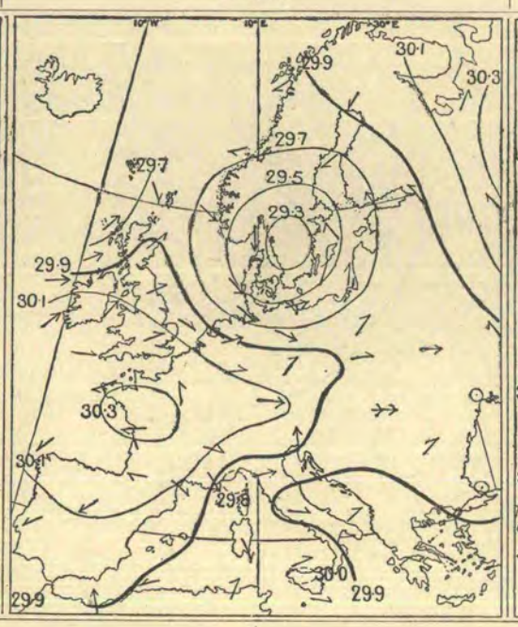
Temperature and Weather.

8 a.m.

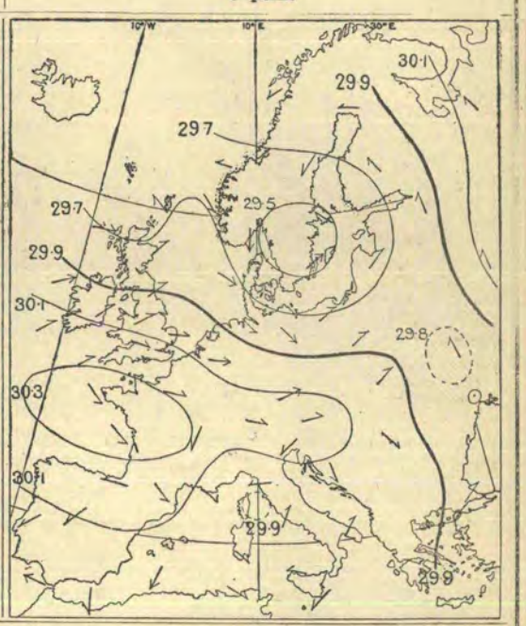


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine in the south of our Islands, as well as in Germany, France, and the west of Norway. Cloudy or overcast elsewhere, with rain over the northern parts of the United Kingdom, and also at some of the Swedish, Danish, and Russians stations. Heavy rain falling during day in the north of Ireland; a thunderstorm occurring at Algiers.

Temperature highest, 70° and upwards, over the central and southern parts of the Mediterranean; lowest, 40° and less, over northern Russia, 45° and less over the central and eastern parts of Scotland. Brisk rise taking place over our Islands during day, and thermometer exceeding 60° at many stations. Maximum readings above 70° in most parts of southern Europe, above 80° in the south of Italy, and above 90° in central Algeria, highest reading of all being 97° at Biskra.

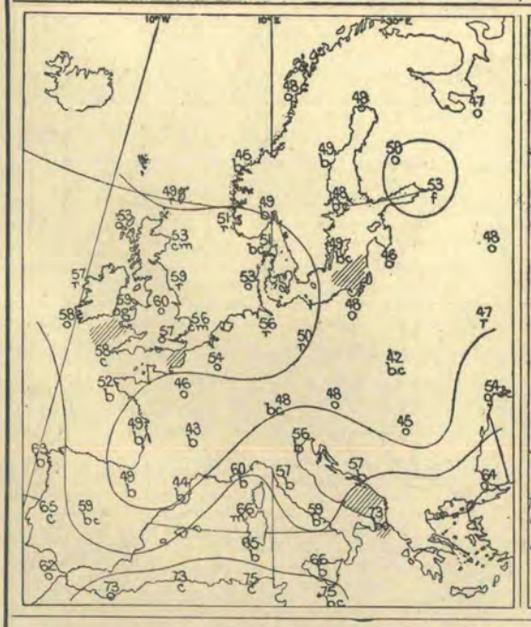
Wind chiefly South-Westerly over our Islands and central Europe, but strong to a gale from the North-Westward on the eastern shores of the North Sea, moderate from the South-Eastward in Russia, and Easterly or North-Easterly in the north of Scandinavia. North-Easterly in Spain; variable in Italy and Algeria. Subsequently veering to the Westward in the west and north of our Islands.

Barometer highest, 30·3 ins. and upwards, in a large anticyclone lying over Russia, and also in smaller system lying over the central and western parts of France. Lowest, 29·3 ins. and less, in a depression lying over the south of Sweden, but low, 29·7 ins. and less, in another disturbance lying off the north-west of Scotland, and 29·8 ins. and less in a third system lying over the Gulf of Genoa. Depression over south of Sweden filling up gradually; disturbance off north-west of Scotland moving eastwards to neighbourhood of Hebrides.

Friday, 27th September.

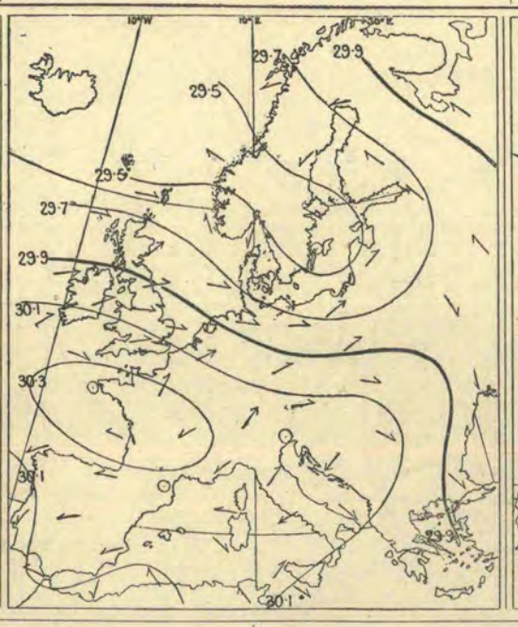
Temperature and Weather.

8 a.m.

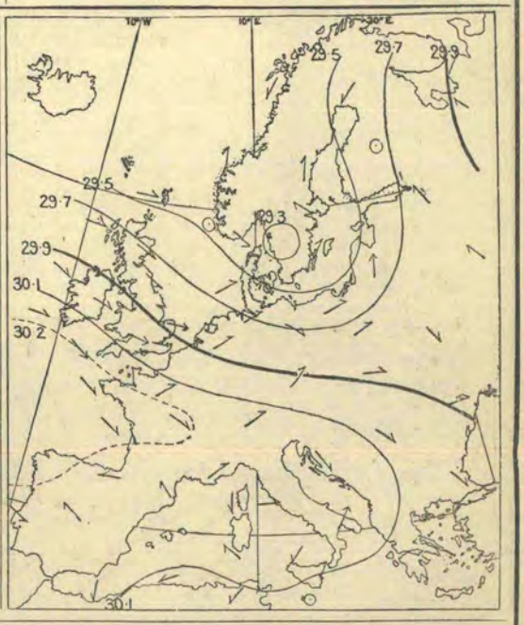


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine in the south of our Islands as well as over France, southern Europe, and the greater part of Scandinavia; cloudy or overcast elsewhere, with rain in the northern parts of England and Ireland, as well as at several of the German and Russian stations. Rain falling later in all but the south-western and southern countries of Europe; heavily at some of the German stations.

Temperature highest, 70° and upwards, on the southern shores of the Mediterranean; lowest, 50° or less, over Scandinavia, the north of Russia, and the greater part of central Europe. Daily maxima a little above 60° at the majority of our own stations, above 70° over southern Europe generally, and above 80° over southern Italy and central Algeria, the highest readings of all being 100° at Biskra and 95° at Laghouat.

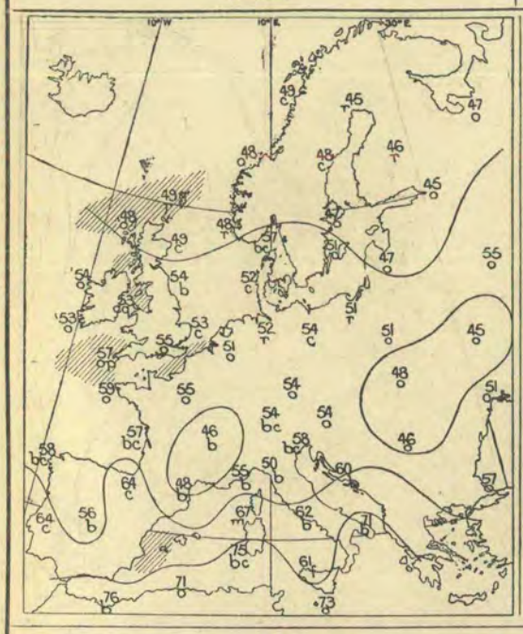
Wind moderate or fresh from the Westward or South-Westward over our Islands and the greater part of central Europe, but South-Easterly in Russia and Easterly in Scandinavia. Light to moderate from the North-Eastward over southern Europe and France, but South-Easterly or Southerly in Algeria. Subsequently veering to the North-Westward over the northern parts of our Islands.

Barometer highest, 30·3 ins. and upwards, in an anticyclone lying over France and the Bay of Biscay, but high, 30·0 ins. and upwards, over central Russia. Lowest, 29·5 ins. and less, in a long trough extending from the neighbourhood of Iceland to the south of Sweden; low, 29·8 ins. and less, in a shallow depression lying over the south of Russia. Rise of barometer taking place during day in the extreme north-west of our Islands.

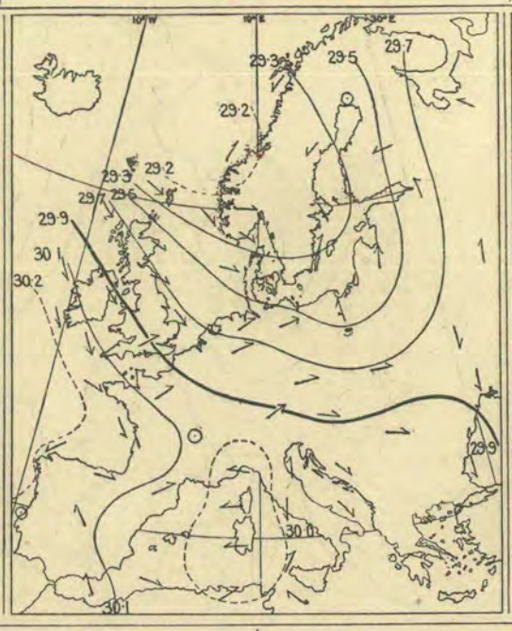
11.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 28th September.

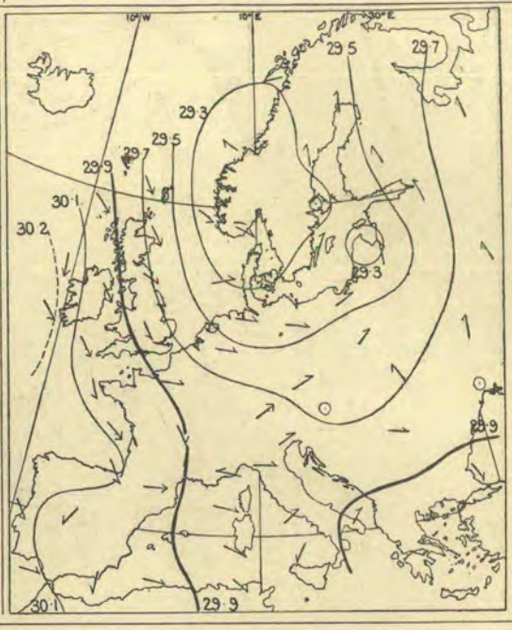
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather dull, rainy, and unsettled over the northern half of Europe, still showery, squally, and unsettled in our Islands and the north of France, fine in extreme south and south-east. Rainfall considerable over northern and central Europe and the Baltic during day (newspapers report snow), and a large quantity falling over Algeria also; the falls in British Islands not heavy.

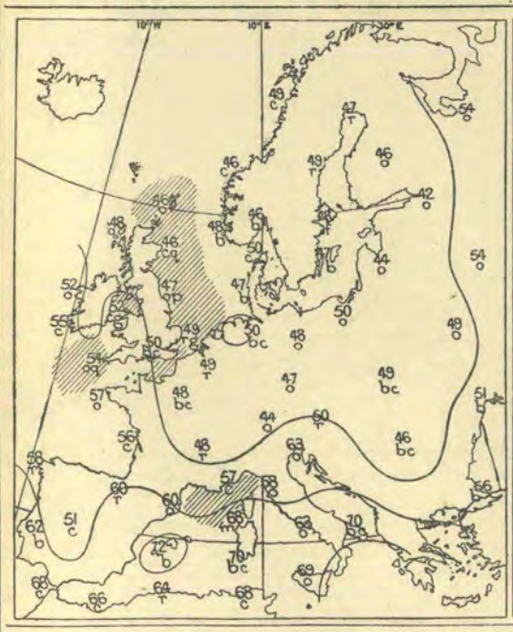
Temperature fallen over north-western Europe, risen a little over Germany, Austria, Italy, and the south of France. Morning readings below 50° over Finland, Scandinavia, and the north of our Islands, and also at the inland stations over the southern half of France; above 60° on the Spanish and west Mediterranean coasts, and above 70° at a few of the Italian and Algerian stations. Daily maxima low over the British Islands and the eastern shores of the North Sea, and very low over Germany, but rising to nearly 80° over the south of Italy, to more than 80° at Madrid, and to upwards of 90° over Algeria.

Wind North-Westerly, moderate to a gale, in our Islands, moderate to strong in the Channel, and becoming fresh over Bay of Biscay; Westerly and South-Westerly, fresh, over Germany, and Southerly, strong, over the Baltic Provinces; very variable over the Mediterranean. Little change later, except that the moderate North-Westerly gale spread southwards down our western and north-eastern coasts.

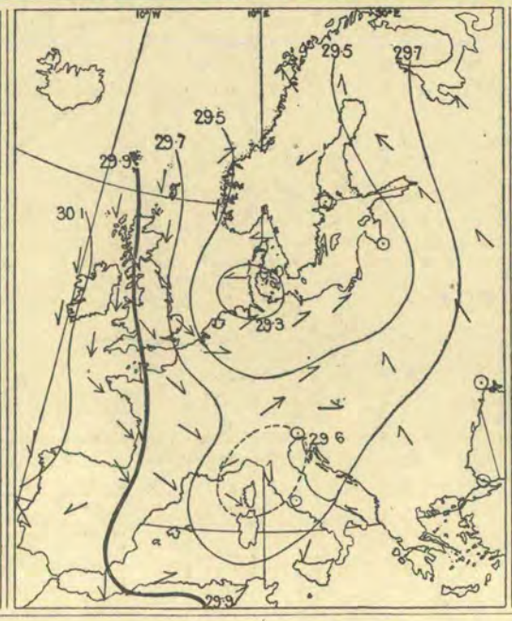
Barometer highest, 30·1 ins. to 30·2 ins., over the extreme west of our Islands, the Bay of Biscay, Spain, and adjacent parts of Atlantic, and exceeding 30·0 ins. over Italy and the south-eastern parts of the Mediterranean also; lowest, 29·2 ins. and less, over Norway, and below 29·5 ins. even over the Baltic; and rather below 30·0 ins. in a shallow disturbance over Sardinia, Corsica, and the south-east of France. Northern depression moving slowly to south-eastwards later, that in south moving northwards and growing deeper; pressure in extreme south-east giving way.

Sunday, 29th September.

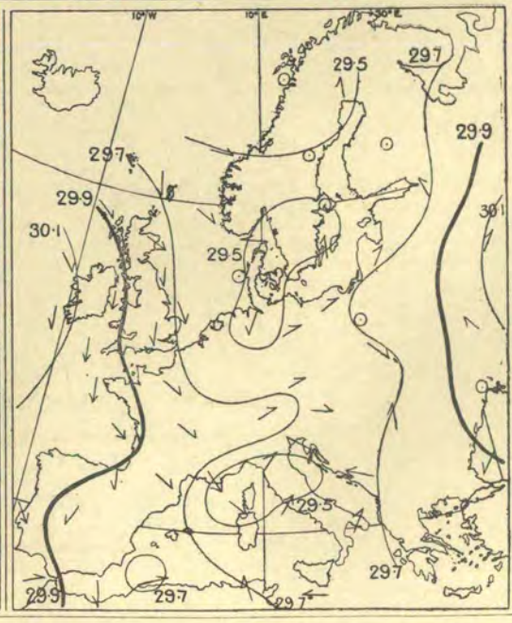
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather remaining cloudy, cold, and showery over north-western Europe, and the cold weather spreading south-eastwards and southwards; conditions unsettled in all countries, with rain in many places, snow in many of the mountain districts of France and Germany.

Temperature risen over Italy and the south of France; fallen in most other places, especially over central Europe. Morning values below 50° over greater part of northern and central Europe, but rather above in the west of our Islands and over southern and central Russia. Above 70° at some of the Mediterranean stations only. Daily maxima much lower over Italy and Algeria than of late (nearly all below 80°), and failing to reach 60° all over Germany and the British Islands.

Wind Northerly over the United Kingdom, the Channel, and Bay of Biscay, moderate to strong in force, North-Westerly to Westerly in the Netherlands, South-Westerly over eastern Germany, South-Easterly over Russia and Finland; North-Westerly over the greater part of the Mediterranean—fresh at Sanguinaire and a gale at Cape Sicié. Northerly wind inclined to moderate in our Islands later, but very little change shown elsewhere.

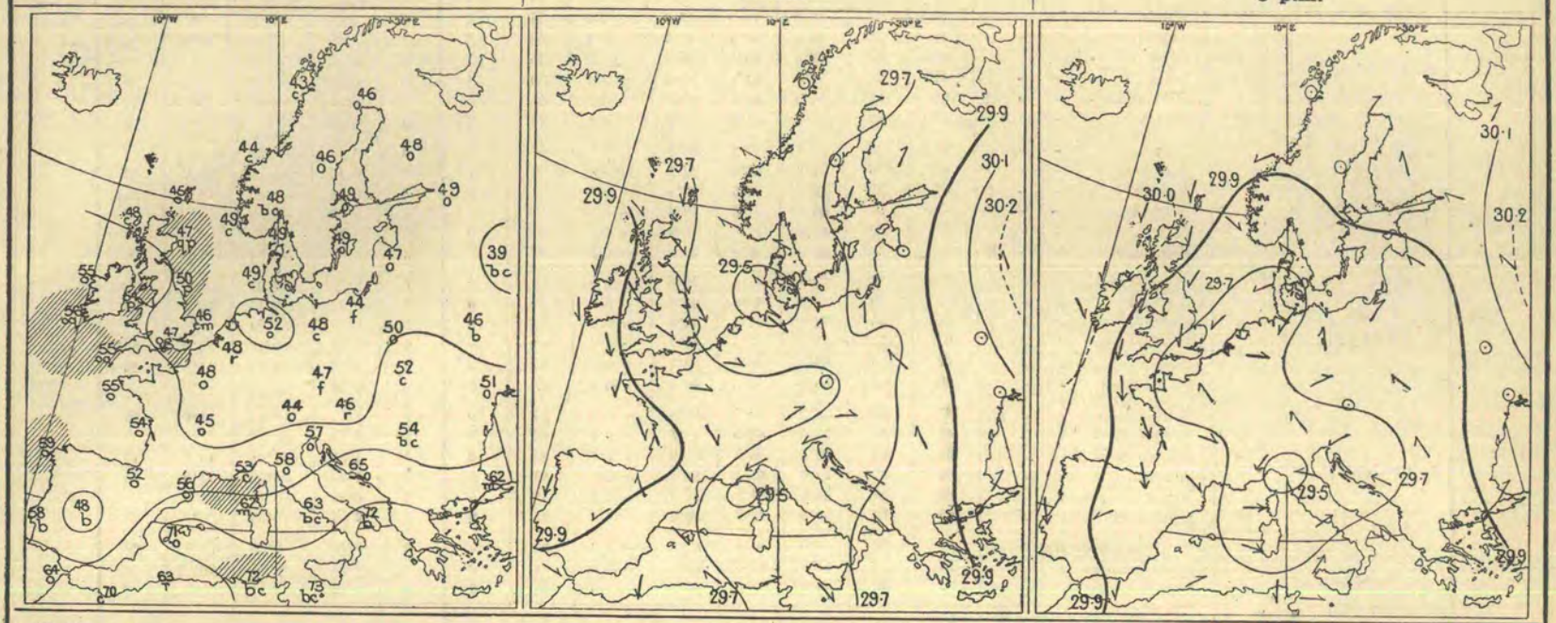
Barometer high over the Atlantic and western Europe, and also over Russia, low over Scandinavia, the Baltic, North Sea, and north-western Germany, and also over northern Italy; low pressure areas tending to fill up later, but new disturbance approaching Scotland and North Sea from the northward.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 30th September.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather still cold, cloudy, showery, and unsettled over the British Islands and France, dull and cloudy over Europe generally, with rain in places. Rain falling during day at most of the British, French, and German stations.

Temperature falling, except in Austria and Poland. Morning readings below 40° over most parts of Russia (lowest 39° at Moscow), and as low as 43° at Bodö, 44° at Christiansund and Munich, and 45° at Lyons and Turin. Daily maxima in our Islands below 60° except at some of the southern stations, but exceeding 70° on the shores of the Mediterranean and at Constantinople. Highest reading of all 84° at Biskra (Algeria).

Wind still Northerly or North-Westerly over the United Kingdom and France, moderate to strong in force, Southerly to South-Easterly over Germany and Scandinavia, variable over Russia and Poland, but North-Westerly over most parts of the Mediterranean. Northerly winds moderating somewhat over our Islands later, scarcely any change elsewhere.

Barometer still high over the Atlantic and western Europe; but new high pressure area appearing over central Russia. Low pressure area over Denmark, north-west Germany, and the south of Scandinavia still filling up, but depression over northern Italy growing somewhat deeper during day.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛ = a heavy gale; ➔ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the greater part of this week two high-pressure areas have existed in the neighbourhood of Europe, one over Russia and the other to the westward or south-westward of the British Isles. The prevailing winds have therefore been North-Westerly or Northerly in the extreme western, but South-Easterly or Southerly in the more eastern countries. Several cyclonic disturbances have appeared in the intervening regions, the most important of all being a depression of varying intensity which was formed over the east of England on the 24th, and which subsequently travelled north-eastwards to Denmark and the Baltic. The formation of this disturbance was attended by very heavy falls of rain over the east of England; and on the 25th, when the centre lay over Denmark and the system was of considerable depth, a moderate to fresh gale from the North-Westward was experienced over the North Sea. On the 28th and 29th a rather well-defined depression travelled from the neighbourhood of the Shetlands and west of Norway to the south of Denmark, the wind on the former date rising to the force of a fresh gale from the North-Westward in the north and east of Scotland.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.)								Rainfall.			Bright Sunshine.	
		Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
September 23rd - - -	Ingatestone - - -	62	36	58·4	39·6	48·5	− 7·9	56	7	3	0·43	−0·17	*	*

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ꝛ	53	37	50·0	42·0	45·8	− 3·7	27	0	7	0·88	−0·02	*	*
	Stornoway ꝛ	59	35	52·0	41·1	46·3	− 2·7	34	3	7	0·66	−0·37	22·8	28
	Wick ꝛ	57	31	52·0	39·4	45·4	− 4·2	35	7	6	0·56	−0·08	*	*
	Lairg ꝛ	59	28	50·4	37·1	43·4	− 5·4	30	14	5	0·66	−0·24	*	*
	Glencarron ꝛ	59	31	51·9	39·3	45·3	− 3·9	34	8	6	1·86†	+0·12	10·5	13
	Fort Augustus ꝛ	61	31	55·9	38·9	47·0	− 4·1	48	9	4	0·47†	?	10·0	12
1. SCOTLAND, E.	Nairn ꝛ	63	33	54·1	40·1	46·8	− 3·7	42	5	6	0·34	−0·28	*	*
	Aberdeen ꝛ	63	35	53·3	41·4	47·1	− 3·4	38	2	7	0·43	−0·29	17·7	22
	Braemar ꝛ	58	30	49·9	?36·8	?43·0	?− 4·5	?29	?15	7	0·53	−0·39	16·7‡	21‡
	Ochtertyre ꝛ	63	34	58·3	41·3	49·4	− 1·3	55	2	3	0·15	−0·82	*	*
	Leith ꝛ	62	39	57·7	42·9	49·9	− 1·6	55	0	3	0·15	−0·41	*	*
	Marchmont ꝛ	58	36	52·4	40·9	46·4	− 3·0	35	3	5	0·68	−0·13	21·3	26
2. ENGLAND, N.E.	Alnwick Castle	58	36	52·4	43·9	48·0	− 2·7	42	0	6	1·32	+0·62	*	*
	Durham	65	36	55·1	42·5	48·5	− 3·8	46	0	5	0·44	−0·16	19·5	24
	Shields	60	36	54·6	42·6	48·3	− 3·2	44	0	5	0·66	+0·06	*	*
	Scarborough ℳ	61	39	54·5	44·4	49·2	− 3·6	50	0	6	0·57	−0·13	20·6‡	25‡
	York	62	35	56·3	42·6	49·1	− 3·7	50	0	4	0·16	−0·59	18·2	22
	Spurn Head	60	42	55·1	45·7	50·2	− 3·0	57	0	6	0·50	?	*	*
3. ENGLAND, E.	Hillington ℳ	63	35	55·9	44·7	50·0	− 2·9	56	0	5	1·13	+0·44	12·8	16
	Yarmouth	62	38	54·6	43·0	48·5	− 6·0	46	0	6	2·54	+1·84	*	*
	Geldeston	65	36	56·1	44·5	50·0	− 4·5	56	0	4	1·95	+1·30	13·6	17
	Cambridge	65	37	58·0	43·1	50·4	− 4·8	59	0	4	1·24	+0·66	17·9	22
	Rothamsted	63	38	56·2	44·1	49·9	− 4·5	55	0	5	0·84	+0·14	*	*
	Ingatestone	63	37	56·3	44·7	50·2	− 4·4	57	0	4	0·95	+0·33	*	*
4. MIDLAND	Bawtry (Hesley Hall)	64	37	56·6	43·9	50·0	− 3·2	56	0	3	0·15	−0·50	24·0‡	29‡
	Loughborough	64	34	57·0	42·3	49·3	− 3·9	51	0	5	0·53	−0·17	20·0‡	24‡
	Cheadle ℳ	63	35	54·9	42·5	48·4	− 3·6	45	0	5	0·42	−0·43	*	*
	Churchstoke ℳ													
	Hereford ℳ	65	35	58·0	45·3	51·4	− 1·9	66	0	2	0·10	−0·60	*	*
	Cirencester	61	34	57·4	42·7	49·7	− 3·9	54	0	2	0·59	−0·20	19·7	24
	Oxford	63	37	58·1	43·4	50·4	− 3·7	59	0	2	1·01	+0·36	18·9	23
5. ENGLAND, S.	London	66	36	58·6	43·4	50·6	− 4·8	60	0	2	0·82	+0·22	15·3‡	19‡
	Strathfield Turgiss ℳ	67	32	59·3	43·9	51·2	− 3·4	64	0	4	0·94	+0·29	*	*
	Dungeness	62	36	58·1	44·1	50·8	− 4·6	62	0	5	0·62	−0·08	*	*
	Hastings (St. Leonard's)	62	38	57·7	46·7	51·9	− 3·5	69	0	2	0·35	−0·41	21·7	26
	Southampton	67	36	61·7	45·8	53·4	− 1·3	80	0	2	0·52	−0·25	27·3	33
	Hurst Castle	64	41	60·3	46·9	53·3	− 2·1	79	0	2	0·60	−0·17	*	*
	Stowell ℳ	64	37	58·6	44·5	51·2	− 3·2	64	0	3	0·74	?	21·5‡	26‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	59	34	54·5	42·7	48·3	− 3·3	44	0	6	1·15†	−0·60	*	*
	Glasgow	58	36	54·1	42·6	48·1	− 3·4	43	0	3	0·51	−0·46	32·1	39
	Ardrossan	58	38	55·4	44·3	49·6	− 1·9	53	0	3	0·67	−0·28	*	*
	Glenlee ꝛ	61	33	55·3	41·7	48·2	− 3·8	45	1	4	0·49	−0·82	*	*
	Douglas (Isle of Man)	60	38	57·0	45·5	51·0	− 0·7	63	0	6	0·59	−0·36	37·0	45
7. ENGLAND, N.W.	Newton Reigny (Penrith)	59	34	53·8	41·3	47·3	− 3·6	40	2	4	0·78	−0·02	30·6	37
	Barrow-in-Furness	58	40	55·9	45·9	50·7	− 2·6	61	0	4	1·04	+0·12	*	*
	Stonyhurst	58	38	54·1	43·1	48·3	− 3·7	44	0	4	2·85	+1·64	28·3	35
	Blackpool ℳ	58	42	55·1	47·1	50·9	− 2·6	62	0	6	0·98	+0·02	28·0	34
	Manchester	66	36	56·0	42·7	49·0	− 3·8	49	0	5	1·10	+0·12	*	*
	Liverpool Obsr (Bidston)	62	43	56·3	48·1	52·0	− 2·4	70	0	5	0·42	−0·40	*	*
	Llandudno ℳ	61	45	56·6	49·2	52·7	− 2·7	75	0	5	0·39	−0·44	18·9	23
	Holyhead	60	46	56·1	49·7	52·8	− 2·4	76	0	6	0·22	−0·68	*	*
8. ENGLAND, S.W.	Llandovery	61	31	59·1	41·3	49·8	− 4·1	58	2	6	0·37	−0·84	*	*
	Pembroke	59	46	57·0	50·7	53·7	0·0	82	0	4	0·06	−0·86	19·6	24
	Arlington (N. Devon)	59	36	56·3	44·4	50·1	− 3·7	57	0	6	0·21	−1·07	*	*
	Cullompton ℳ	65	34	60·6	46·0	53·0	− 2·0	77	0	3	0·18	−0·72	21·3	26
	Falmouth	63	44	58·4	48·8	53·4	− 2·6	80	0	2	0·13	−1·12	28·8	35
	Plymouth	65	40	60·7	47·2	53·6	− 2·4	81	0	4	0·22	−0·71	23·7	29
	Prawle Point	62	41	60·1	47·0	53·2	− 0·6	78	0	4	0·08	?	*	*
9. IRELAND, N.	Malin Head	57	44	54·3	47·7	50·8	− 0·2	62	0	5	1·27	?	*	*
	Londonderry	59	41	55·6	44·8	49·9	− 1·8	55	0	6	1·54	+0·62	*	*
	Mullaghmore	59	45	56·6	49·3	52·8	+ 0·2	76	0	6	1·35	+0·34	*	*
	Belmullet	58	46	56·0	50·1	52·9	+ 0·2	76	0	6	0·80	?	*	*
	Markree Castle	60	39	56·0	45·5	50·5	− 2·1	60	0	7	0·57	−0·23	20·5	25
	Brookeborough	59	35	56·1	42·1	48·8	− 3·5	48	0	4	0·92	?	*	*
	Armagh	61	36	57·0	43·0	49·7	− 2·8	54	0	5	0·53	−0·18	25·6	31
	Donaghadee	60	42	56·1	46·9	51·3	− 0·9	65	0	5	0·29	−0·46	*	*
	Edgeworthstown	60	36	56·6	42·9	49·4	− 3·8	52	0	4	0·19	−0·58	*	*
10. IRELAND, S.	Dublin	63	39	57·5	46·0	51·5	− 1·5	67	0	3	0·12	−0·50	29·1	35
	Parsonstown	60	36	57·4	45·0	50·9	− 2·7	62	0	3	0·05	−0·73	28·7	35
	Kilkenny	65	37	58·3	45·9	51·8	− 2·0	69	0	0	—	−0·74	*	*
	Waterford	66	39	60·7	46·9	53·5	− 0·3	81	0	0	—	−0·92	*	*
	Roche's Point	62	45	59·9	50·1	54·8	+ 0·3	90	0	1	0·15	−0·85	*	*
	Valencia	61	48	58·7	51·4	54·9	− 0·2	90	0	4	0·09	−1·10	18·2	22
	Killarney	65	34	59·4	48·4	53·6	− 1·0	81	0	2	0·06	?	*	*
	Foynes	62	42	58·6	49·8	54·0	− 0·3	84	0	2	0·16	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	61	50	58·9	51·3	54·9	− 2·3	90	0	3	0·19	−0·69	*	*
	Jersey	65	43	61·1	50·3	55·4	− 2·4	94	0	4	0·28	−0·60	33·6	41

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ꝛ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

(OFFICIAL COPY.)

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VI. No. 40.] *Third Series.* WEEK ENDING MONDAY, 7TH OCTOBER, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861-80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866-85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881-85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 240.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	55	32	53·1	42·6	47·6	1 below.	39	− 9	0	− 3	1863	+163	521	+ 9
	1. SCOTLAND, EAST	62	34	54·1	41·7	47·8	1 below.	42	−14	1	− 3	2164	− 19	557	+ 12
	2. ENGLAND, N.E.	59	37	54·3	44·1	49·0	2 below.	49	−13	0	− 2	2321 *	− 21	493	+ 11
	3. ENGLAND, EAST	59	36	55·7	43·6	49·5	3 below.	53	−15	0	− 1	2648	− 48	627	+119
	4. MIDLAND COUNTIES	60	32	55·1	42·3	48·5	3 below.	46	−23	0	− 3	2620	− 50	573	+ 65
	5. ENGLAND, SOUTH	61	39	57·0	45·8	51·3	2 below.	65	−11	0	− 1	2908	− 3	448	+ 74
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	59	33	54·5	42·7	48·5	2 below.	46	−15	0	− 2	2309	+ 19	376	− 22
	7. ENGLAND, N.W.	59	38	54·3	45·1	49·6	3 below.	53	−11	0	− 1	2470	+ 23	382	− 1
	8. ENGLAND, S.W.	62	30	56·4	45·0	50·6	3 below.	60	−18	0	0	2684	− 84	321	+ 87
	9. IRELAND NORTH	58	34	54·0	45·1	49·4	2 below.	52	− 9	0	− 2	2402	+ 28	297	− 53
	10. IRELAND, SOUTH	62	34	55·7	44·9	50·1	3 below.	57	−13	0	− 1	2675	− 5	225	− 14
	— CHANNEL ISLANDS	63	44	58·0	50·1	53·9	3 below.	83	−10	0	0	3075	+ 79	77	− 16

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 240.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	6	17	8 more.	186	+16	31·8	+0·7	16	21	856	−228	23	− 6
	1. SCOTLAND, EAST	6	11	3 more.	151	+ 5	20·6	−3·9	17	22	1102	−133	30	− 3
	2. ENGLAND, N.E.	5	5	1 less.	138	− 2	18·1	−2·7	13	16	1031	−106	28	− 3
	3. ENGLAND, EAST	6	7	1 more.	144	− 1	20·7	+1·2	11	13	1151	−227	31	− 7
	4. MIDLAND COUNTIES	6	5	2 less.	134	− 6	22·1 *	−0·2	14	17	1079 *	−151	29	− 4
	5. ENGLAND, SOUTH	6	12	5 more.	135	0	18·8	−1·9	18	23	1159	−161	32	− 3
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	6	17	5 more.	159	+ 1	31·2	−3·8	16	21	1164	− 31	31	− 1
	7. ENGLAND, N.W.	6	12	2 more.	145	− 2	24·4	−1·7	8	10	1121	− 80	30	− 3
	8. ENGLAND, S.W.	6	14	3 more.	144	− 9	25·7	−6·4	27	34	1329	−100	36	− 3
	9. IRELAND, NORTH	6	17	8 more.	177	+ 2	29·8	+2·7	9	12	969	−135	26	− 4
	10. IRELAND, SOUTH	5	12	3 more.	156	− 7	27·5	−2·3	20	25	1210	− 56	33	− 2
	— CHANNEL ISLANDS	6	11	2 more.	150	−15	19·2	−4·6	31	39	1535	−152	42	− 4

General Remarks.

Weather has been in a cloudy and unsettled condition very generally with frequent (and at times heavy) falls of rain. Thunder and lightning were experienced over the south of England during the afternoon or evening of the 4th.

Temperature has continued below the mean in all districts, the deficit having ranged from 1° to 3°. The highest of the maxima, which were recorded on somewhat irregular dates, varied from 55° in "Scotland, N." to 62° in "Scotland, E.", "England, S.W.", and "Ireland, S.", and 63° in the "Channel Islands". The lowest of the minima (which were also registered at varying times) ranged from 30° in "England, S.W." and 32° in "Scotland, N." and the "Midland Counties" to 39° in "England, S." and to 44° in the "Channel Islands". During the greater part of the week the minima were rather above the mean for the time of year.

Rainfall has been less than the mean in "England, N.E." and the "Midland Counties", but more in all other districts.

Bright sunshine shows a decrease in nearly all places, and has been very deficient generally. Over the greater part of the Kingdom the percentage of the possible amount of duration ranged from 10 to 25, but in "England, S.W." 34 % was recorded, and in the "Channel Islands" 39 %.

Barometer and Wind.—Soon after the commencement of the period the barometer began to fall over the United Kingdom, and an irregularly shaped area of low pressure gradually appeared over us from the westward. By the 6th this system had partially dispersed, but during the latter part of the day a rapid fall of the mercury set in on our western coasts and a well marked and very deep depression approached us from the Atlantic. At 8 a.m. on the 7th its centre lay over the south of Scotland, and during the day travelled steadily north-north-eastwards towards the Shetlands. The wind (which was at first Northerly and afterwards from between North-West and South-West and moderate to fresh in force) subsequently increased to a gale on all parts of our coasts, from the South-Westward or Westward over England and Ireland, and from the Eastward or South-Eastward in Scotland. Over Ireland and the north-western parts of England the gale was of exceptional violence.

* This value has been altered owing to the receipt of further information.

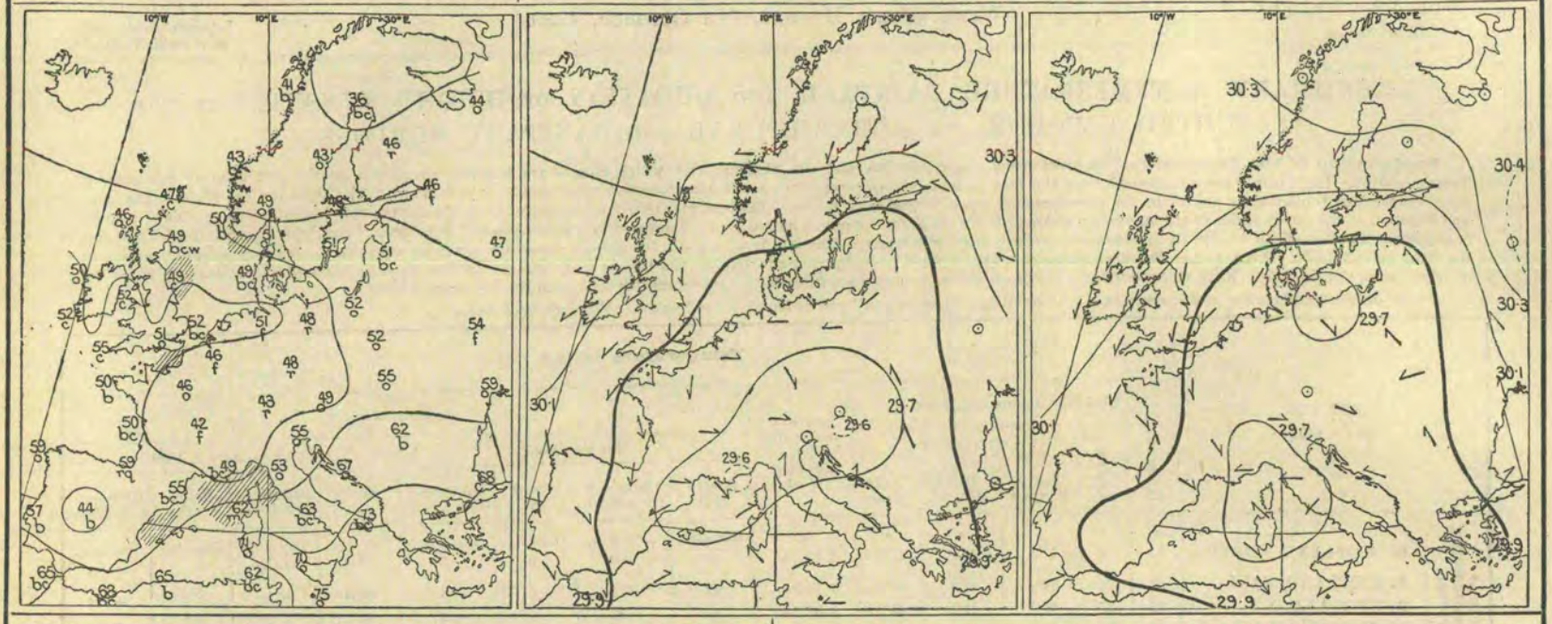
60217. 350.—10/89. Wt. 36. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 1st October.

Temperature and Weather. | **Barometer and Wind.**

8 a.m. | **8 a.m.** | **6 p.m.**



Weather fair in the western parts of our Islands and Norway as well as in Spain, Algeria, and the south of Italy. Cloudy or overcast elsewhere, with passing showers in the east and south of Great Britain and steady rain in some parts of central Europe. Rain setting in later in Sweden and Denmark as well as at some of the Italian stations. Lightning seen in the east of England at night.

Temperature highest, 70° and upwards, in the neighbourhood of the south of Italy; high, 65° and upwards, at several of the Mediterranean and Adriatic stations. Lowest, 40° or less, in Lapland; low, 45° or less, over the northern parts of Russia and Scandinavia and the central parts of Ireland and France. Daily maxima below 60° in nearly all parts of western Europe, but thermometer rising above 70° in Spain and the south of Italy and above 80° at some of the Algerian stations.

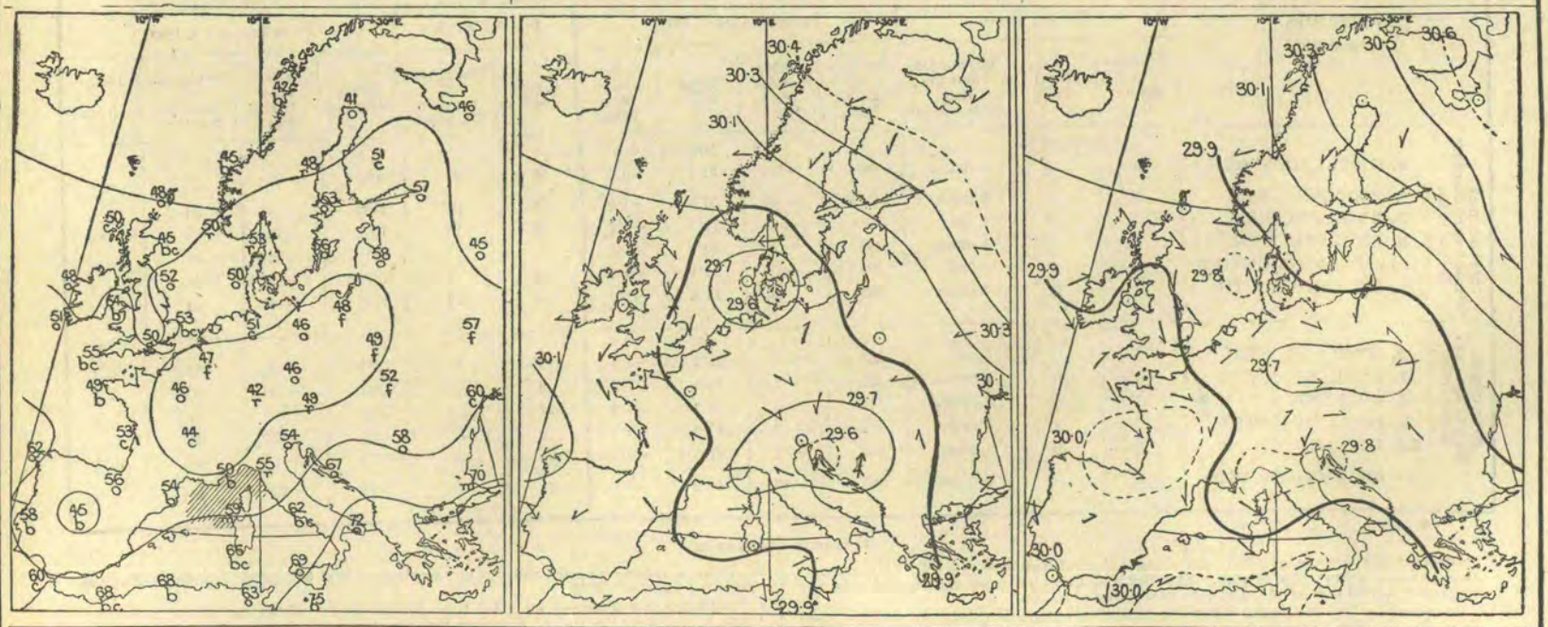
Wind light to fresh from the Northward or North-Eastward over the greater part of western and northern Europe, but North-Westerly in Spain and the extreme south of France. Light from the South-Eastward or Southward over Italy, Austria, and the south of Russia, as well as in Algeria; variable at the German stations. Cyclonic circulation appearing later on the coasts of Algeria, Italy, and the south of France.

Barometer highest, 30·3 ins. and upwards, over central Russia; high, 30·1 ins. and upwards, in a very large area lying to the westward and northward of the British Islands. Lowest, 29·7 ins. and less, over Austria, northern Italy, and the southern parts of France and Germany. Two large depressions appearing over Europe later—one over North Germany and the southern parts of the Baltic, the other over the Riviera, western Italy, and the adjacent portions of the Mediterranean.

Wednesday, 2nd October.

Temperature and Weather. | **Barometer and Wind.**

8 a.m. | **8 a.m.** | **6 p.m.**



Weather fine in the west of Norway and the west and north of Great Britain as well as at the Spanish, Algerian, and Mediterranean stations, cloudy or overcast elsewhere, with fog in the south and south-west of Russia, and rain in the south of Scandinavia and many parts of Central Europe. Fog setting in at night in some parts of Great Britain.

Temperature highest, 65° to 75°, over the eastern and southern parts of the Mediterranean; lowest, 40° or less, over central Ireland, but low, 45° or less, over the north of Scandinavia, the east of Scotland, and some parts of France and Germany. Daily maxima below 60° over nearly the whole of western Europe, with thermometer rising above 70° in the southern parts of Spain and Italy, and above 80° in central Algeria, highest reading of all being 84° at Biskra.

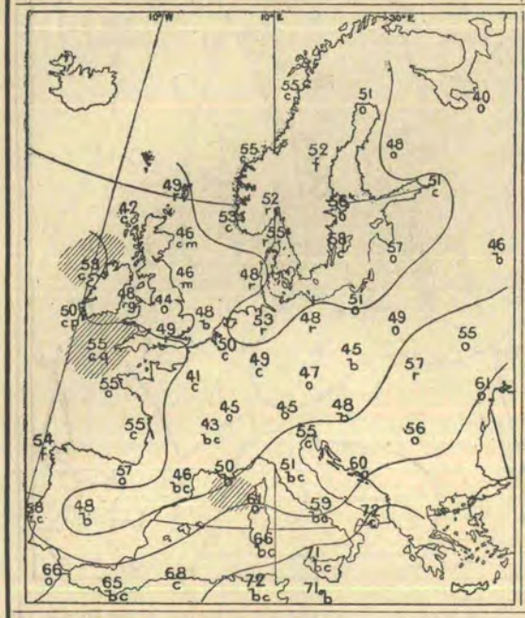
Wind light or moderate from the Eastward over Russia and Scandinavia, and from the South-Eastward in the extreme west of the United Kingdom, North-Westerly or Northerly over Great Britain and France, South-Westerly in Italy, variable over Spain, Algeria, and the greater part of central Europe. Light Southerly or South-Westerly breezes setting in later at many of our western stations; decided cyclonic circulation appearing over eastern Germany.

Barometer highest, 30·4 ins. and upwards, in a large anticyclone lying over Lapland and the northern and central parts of Russia; high, 30·1 ins. and upwards, in a smaller system lying over the north of Spain. Lowest, 29·6 ins. and less, in two depressions, one lying over central Denmark and the other over the south-west of Austria. New disturbance appearing later off the extreme north-west of our Islands; Danish depression moving slowly westwards to North Sea.

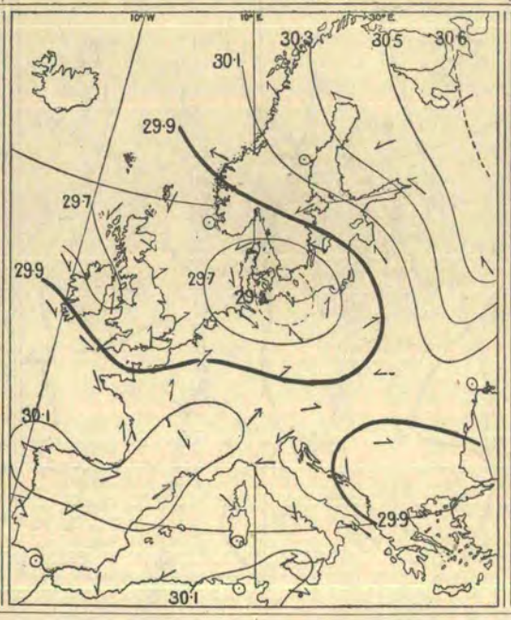
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 3rd October.

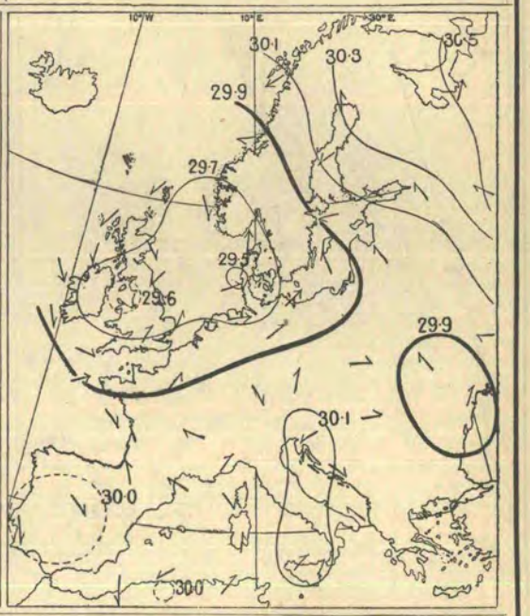
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather fair over southern Europe, Algeria, and the Mediterranean, as well as in the west of Norway and the greater part of Scotland. Cloudy or overcast elsewhere, with rain in Denmark, North Germany, and many parts of England and Ireland. Rain falling later in the west and north of France, and also in Sweden and Austria. Thunder and lightning occurring in the east of England at night.

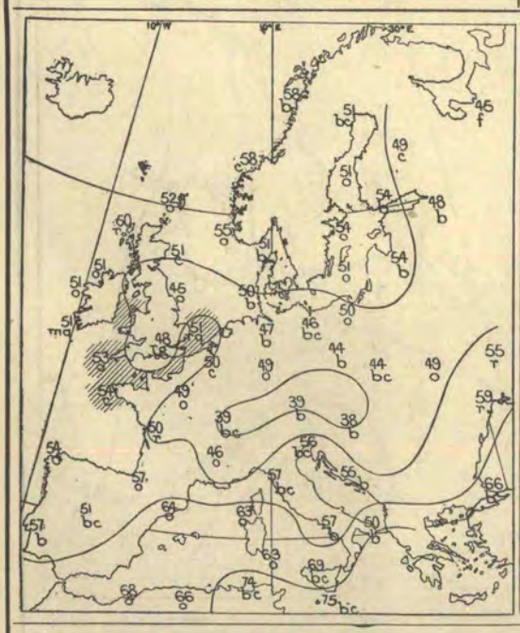
Temperature highest, 70° or a little above, in the neighbourhood of the south of Italy; lowest, 40° or less, in the neighbourhood of the White Sea, but low, 45° or less, over Scotland and central France. Daily maxima below 60° in all parts of northern and north-western Europe, but thermometer rising above 70° in the southern countries, and above 80° in central Algeria. Frost occurring at night in some of the central parts of England and Germany.

Wind light to fresh from the South-Eastward or Eastward over Russia, Scandinavia, and the Baltic, but variable in the northern parts of Great Britain, and strong from the Westward or North-Westward in the west and south-west of our Islands. Light or moderate from South-West over Germany, the north of France, and the south of England; variable over southern Europe and the Mediterranean. Subsequently increasing to a strong breeze from the Westward over the English Channel.

Barometer highest, 30·6 ins. and upwards, over the northern parts of central Russia; high, 30·1 ins. and upwards, over Algeria, the south of France, and the north of Spain. Lowest, 29·6 ins. and less, in a depression lying over the southern parts of the Baltic, but low, 29·7 ins. and less, in another disturbance lying over the extreme north-west of our Islands. Former system subsequently moving westwards to west coast of Denmark; latter disturbance advancing south-eastwards to North Wales.

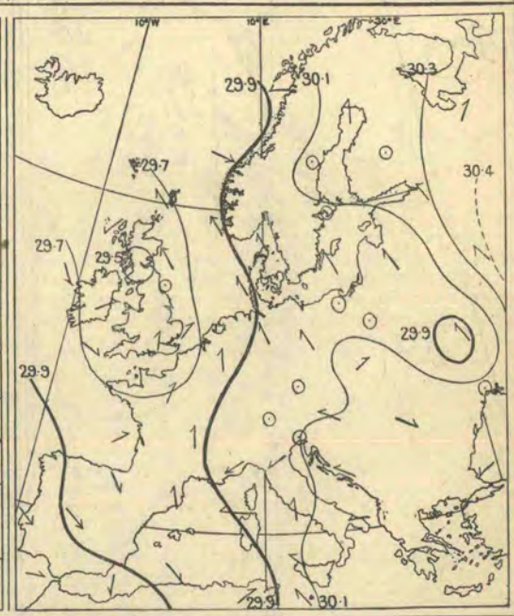
Friday, 4th October.

Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**

6 p.m.



Weather dull and unsettled in nearly all the more western countries, with heavy rain in many parts of Great Britain and France, and fog in the north of England. Fine over the greater part of northern, eastern, central, and southern Europe. Rain falling later in some parts of Russia and also in northern Italy. Thunder and lightning occurring at some of the Channel stations.

Temperature highest, 70° and upwards, over Tunis and the extreme south of Italy; 65° and upwards in Algeria. Lowest, 35° or less, in some parts of central England; 40° or less in some parts of central Europe. Daily maxima below 60° in our Islands, the Netherlands, and the north of France, but thermometer rising above 70° over the greater part of southern Europe, and to between 80° and 93° over Algeria.

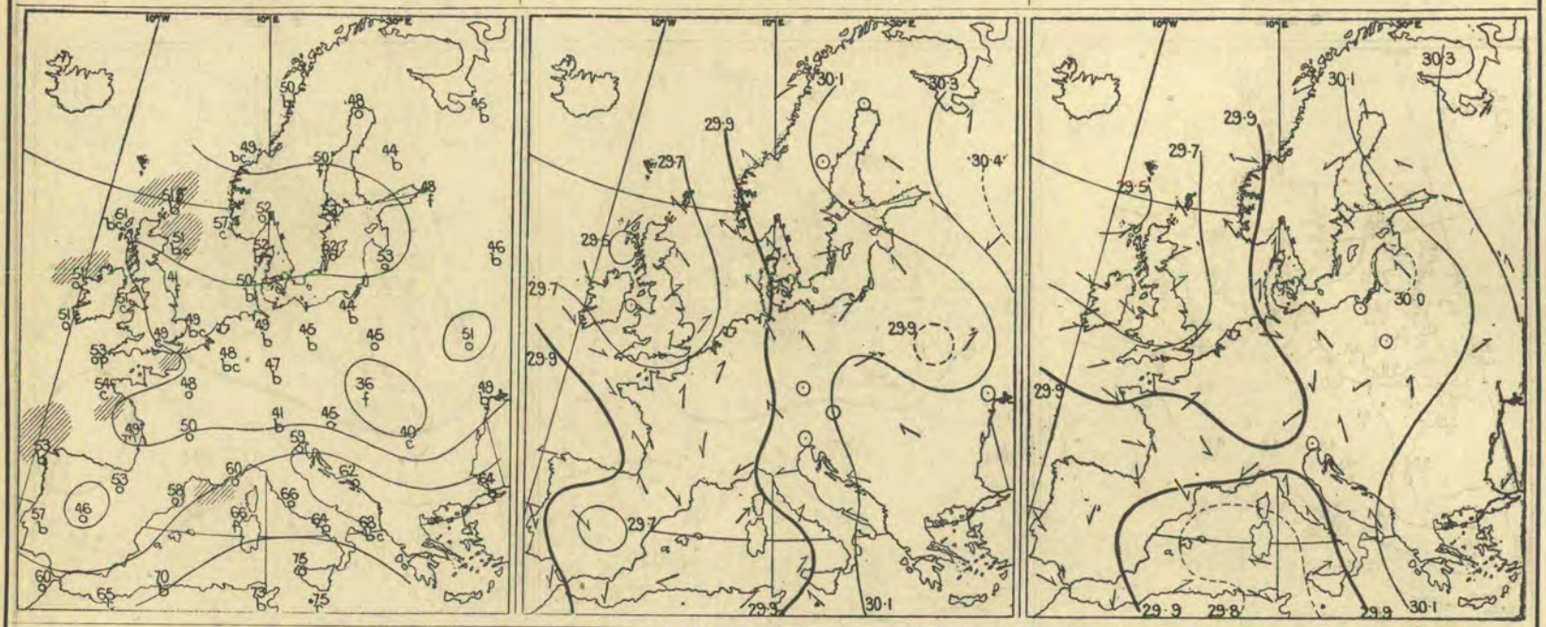
Wind fresh from the Northward or North-Westward in the west of our Islands, but strong from the South-Westward or Southward over the eastern part of the Channel, with a gale in the Straits of Dover, and moderate from the same quarters in Denmark, the Netherlands, and the greater part of France. Moderate from the South-Eastward or Eastward over Russia and Scandinavia; variable over southern Europe. Subsequently increasing to a strong breeze from the South-Eastward in the east of Scotland.

Barometer highest, 30·5 ins. and upwards, in an anticyclone lying over central Russia; high, 30·1 ins. and upwards, in a separate area lying over the whole of Austria, Turkey, and Italy. Lowest, 29·5 ins. and less, in two small depressions, one lying off the east of Scotland, and the other over the south and south-east of England; somewhat low, 29·9 ins. and less, in another disturbance lying over the south of Russia. Depression over England filling up rapidly during day; Scotch disturbance moving slowly south-westwards.

Saturday, 5th October.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather changeable and showery over the greater part of western and southern Europe, and foggy over the north of England as well as at some of the German stations. Fair in Norway and Denmark and also over the greater part of Russia and Germany. Sky clearing later in many parts of our Islands and France, but heavy rain falling in Italy, Algeria, and the extreme south of France.

Temperature highest, 70° and upwards, over the central and southern parts of the Mediterranean; lowest, 45° or less, over central Europe, northern Russia, and the inland parts of Scotland. Daily maxima below 60° in all parts of our Islands, but thermometer rising above 70° in Italy and above 80° at most of the Algerian stations, the highest reading of all being 90° at Biskra.

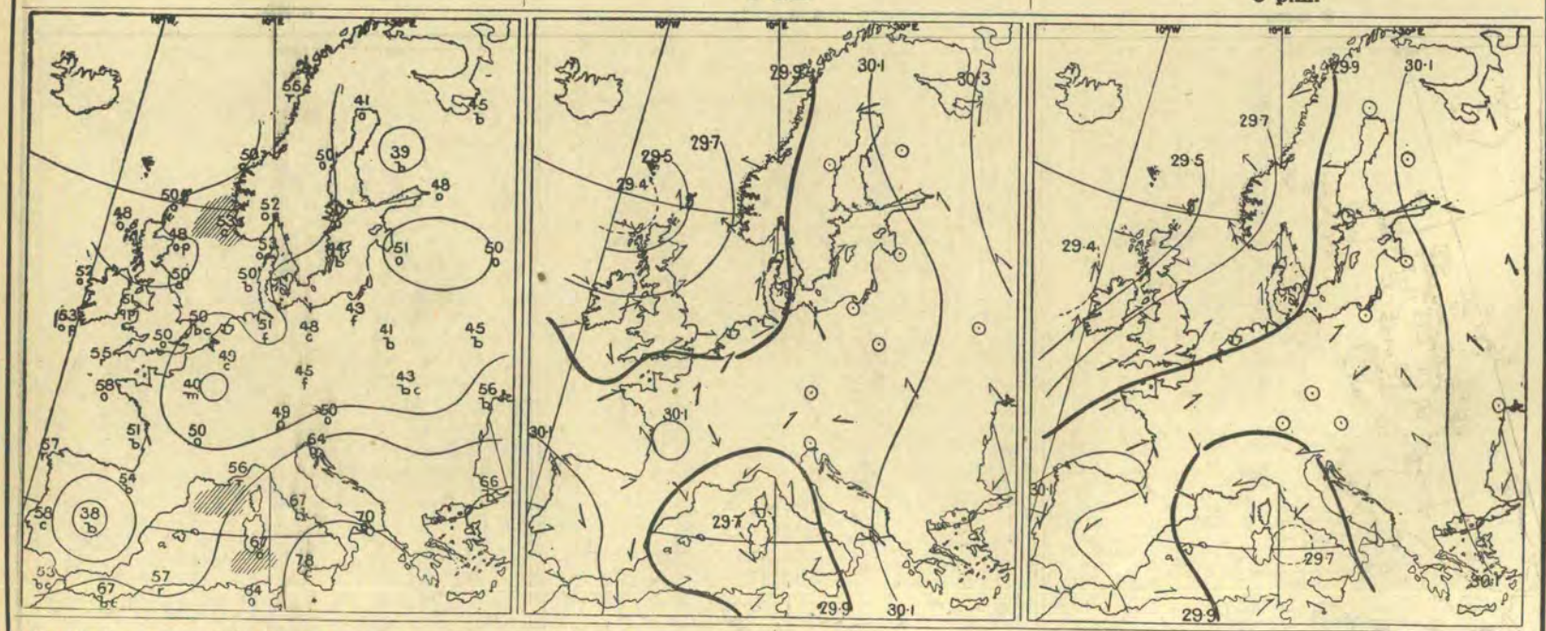
Wind moderate or fresh from the North-Westward in the west and south-west of our Islands, and from the South-Westward in the eastern parts of the Channel. Light from the South-Eastward or Eastward over the greater part of northern, eastern, and central Europe. Cyclonic circulations shown over Spain, Italy, and Algeria. Subsequently backing to the Westward or South-Westward on some parts of our western coasts.

Barometer highest, 30·4 ins. and upwards, over central Russia; high, 30·0 ins. and upwards, in a small anticyclone lying off the north-west of Spain. Lowest, 29·6 ins. and less, in a large depression lying over the greater part of the United Kingdom, but low, 29·7 ins. and less, in a smaller disturbance lying over central Spain, and also in a still smaller system lying near Tunis. Depression over our Islands subsequently moving northwards; Spanish disturbance travelling eastwards to Mediterranean, and partially filling up.

Sunday, 6th October.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine at most of the Russian stations, as well as in the Netherlands and north of France. Cloudy or overcast elsewhere, with passing showers in many parts of the United Kingdom, steady rain in the north of Italy and south of France, and a thunderstorm at Rome. Heavy rain setting in at night on our extreme western coasts.

Temperature highest, 75° and upwards, in Sicily and Tunis; high, 65° and upwards, at several of the Mediterranean stations. Lowest, 40° or less, in Lapland, Finland, and central Spain; low, 45° or less, over eastern Austria and the south and west of Russia. Daily maxima below 60° over our Islands, the Netherlands, and the north of France, but thermometer rising above 70° over Algeria and the southern parts of Italy and Austria.

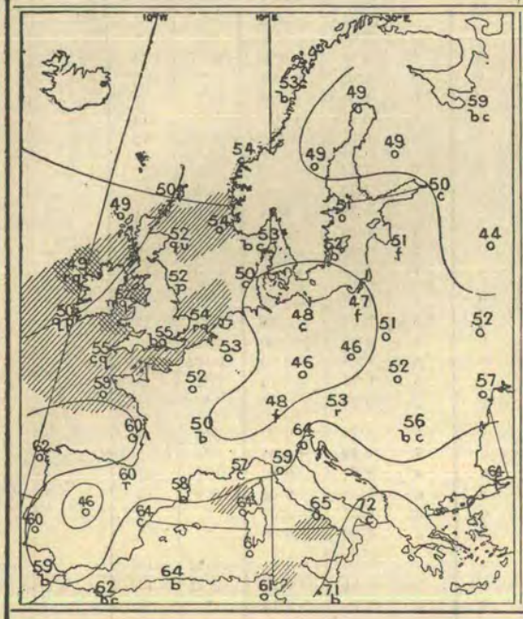
Wind light to moderate from the Westward in the west of our Islands, and from the South-Westward or Southward on our eastern, south-eastern, and the French coasts. South-Easterly over the greater part of northern and central Europe, with a gale at Skudesnaes. Cyclonic circulation shown over the Mediterranean. Subsequently backing to the Southward in the west of our Islands, and increasing to a gale.

Barometer highest, 30·3 ins. and upwards, in a large anticyclone lying over Russia; high, 30·1 ins. and upwards, in a smaller area lying over Spain and Morocco. Lowest, 29·4 ins. and less, in a small depression lying off the north of Scotland, but low, 29·7 ins. and less, in two other disturbances lying respectively off the coasts of Sardinia and Tunis. Deep cyclonic systems subsequently advancing towards the north of Ireland, and barometer falling rapidly on all our western coasts; midnight reading at Mullaghmore, 28·51 inches.

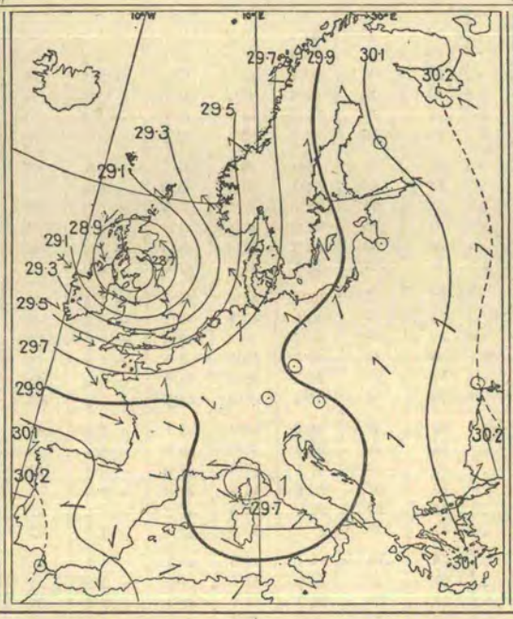
II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 7th October.

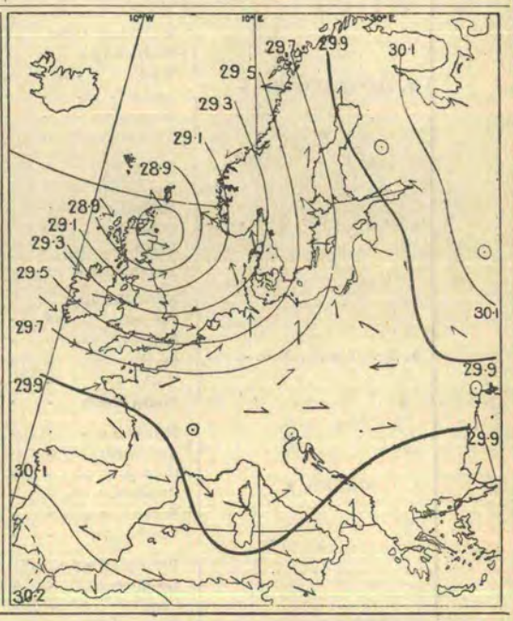
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather cloudy and unsettled generally, with rain over the northern parts of the United Kingdom, as well as in isolated parts of northern and central Europe; passing showers in the south of our Islands, and fog at several of the German stations. Thunderstorm reported at Rome. Heavy rain falling later in the north of Scotland, the largest amount being 1·5 ins. at Sumburgh Head. Lunar halos seen at night in some parts of England.

Temperature highest, 70° or a little above, in the neighbourhood of the south of Italy; lowest, 45° or less, over central Russia and some parts of central Germany. Daily maxima below 55° at many of our own northern stations, and below 60° in the south, but thermometer rising above 70° in Spain and Algeria, and above 80° in the south of Italy, the highest reading of all being 82° at Brindisi and Palermo.

Wind strong to a gale over nearly the whole of north-western Europe,—from North-West in Ireland, from West in the west and south of England, and the north of France, from South in the east of England, and from South-East over Scotland and the eastern shores of the North Sea. Gale severe in Wales and the north of Ireland. Another cyclonic circulation shown over Italy and the south of France; light South-Easterly breezes reported in Russia and Austria, variable breezes in Spain. Subsequently veering to the Westward in Scotland and the east of England.

Barometer highest, 30·2 ins. and upwards, in a large anticyclone covering nearly the whole of Russia and also in a smaller system lying to the south-westward of the Iberian peninsula. Lowest, 28·7 ins. and less, in a deep depression the centre of which lay near Dumfries; somewhat shallow disturbance with readings below 29·7 ins. lying over the Gulf of Genoa. Deep depression in north subsequently travelling in a north-north-easterly direction to the north-eastward of Scotland, and barometer rising at all but our extreme northern stations.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⫸⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the whole of this week a large anticyclonic system has existed over the northern and central parts of Russia, so that the prevailing winds over northern and eastern Europe have been South-Easterly or Southerly. At the opening of the period the barometer was also high to the westward of the United Kingdom; and northerly breezes were therefore reported in most of the western countries. After the 1st, however, the secondary high pressure system moved gradually southwards, and the winds over our Islands and their neighbourhood backed, first to the North-Westward and afterwards to the Westward or South-Westward. In the course of the week several depressions have appeared over western, central, and southern Europe. Between the 1st and the 3rd two small disturbances travelled in a west-north-westerly direction from Poland and the Baltic. In the first instance the depression broke up on reaching the North Sea, but in the latter case the system moved as far as Scotland, and, as its progress was accompanied by the advance in a south-easterly direction of another disturbance from the Atlantic to the south-east of England, the conditions over western Europe were for a time very complicated. During the 4th and 5th both systems disappeared, but at the close of the week a deep cyclonic disturbance, with minimum pressures of about 28·5 inches, advanced quickly from the Atlantic to the north of Ireland and the south of Scotland, and afterwards travelled at a more gradual rate to the extreme north of our Islands. On the 7th, when this depression lay directly over us, the wind blew a strong gale in nearly all parts of the United Kingdom.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.)								Rainfall.			Bright Sunshine.	
		Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
September 2nd	Scarborough	71	48	63·9	51·3	56·2	− 1·0	99	0	4	0·05	−0·56	—	—
„ 30th	Churchstoke	61	38	56·2	44·1	49·9	− 2·9	55	0	5	0·21	−0·54	17·8	22

III.—DATA from which the SUMMARY on page 235 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches	Inches.		
0. SCOTLAND, N.	Sumburgh Head ⚓	54	42	52·6	44·9	48·6	+ 0·2	46	0	7	2·38	+1·43	*	*
	Stornoway	55	37	52·4	41·0	46·5	− 1·4	36	3	5	1·00	−0·08	25·8	34
	Wick ⚓	55	40	54·7	44·3	49·4	+ 1·0	52	0	6	1·52	+0·87	*	*
	Lairg ⚓	55	32	52·8	40·7	46·6	− 1·0	38	4	6	1·75	+0·82	*	*
	Glencarron ⚓	55	38	52·6	41·8	47·0	− 1·0	36	1	5	2·31†	+0·51	13·7	18
	Fort Augustus ⚓	55	32	53·2	42·6	47·7	− 2·1	40	0	5	0·98 †	?	9·4	12
1. SCOTLAND, E.	Nairn	57	37	54·1	40·9	47·3	− 2·0	42	3	6	1·22	+0·62	*	*
	Aberdeen	58	40	54·4	43·1	48·6	− 0·3	46	0	6	1·10	+0·40	21·5	28
	Braemar ⚓	55	34	52·0	41·1	46·4	+ 0·3	35	3	5	0·71	−0·21	16·0‡	21‡
	Ochtertyre ⚓	62	34	57·3	40·6	48·7	− 0·5	53	4	5	0·96	−0·04	*	*
	Leith	59	39	54·3	43·1	48·5	− 1·5	46	0	5	1·09	+0·58	*	*
	Marchmont ⚓	57	39	52·7	41·6	47·0	− 0·8	37	1	7	1·19	+0·42	14·3	18
2. ENGLAND, N.E.	Alnwick Castle	57	37	53·9	43·0	48·3	− 1·5	44	0	4	0·61	−0·06	*	*
	Durham	58	40	53·9	42·7	48·1	− 2·5	43	0	5	0·38	−0·26	7·8	10
	Shields	59	40	54·7	44·4	49·4	− 1·1	52	0	5	0·38	−0·20	*	*
	Scarborough ⚓	55	43	53·5	45·8	49·5	− 1·9	53	0	3	0·48	−0·23	14·6‡	18‡
	York	58	38	55·1	42·0	48·4	− 3·2	45	0	5	0·55	−0·10	15·1	19
	Spurn Head	58	42	54·4	46·9	50·5	− 1·2	60	0	5	0·70	?	*	*
3. ENGLAND, E.	Hillington ⚓	56	36	54·3	43·4	48·7	− 2·9	47	0	5	0·74	+0·09	5·4	7
	Yarmouth	56	43	55·1	45·7	50·3	− 2·8	58	0	7	0·99	+0·29	*	*
	Geldeston	59	40	57·1	43·3	50·0	− 3·2	56	0	4	0·61	−0·02	16·7	21
	Cambridge	59	37	56·6	43·3	49·8	− 3·6	55	0	6	0·58	+0·02	9·4	12
	Rothamsted	56	39	55·2	42·5	48·7	− 4·1	47	0	6	0·63	−0·07	*	*
	Ingatestone	57	39	55·9	43·3	49·4	− 3·9	52	0	6	0·90	+0·26	*	*
4. MIDLAND	Bawtry (Hesley Hall)	56	32	54·1	40·4	47·1	− 4·7	42	4	6	0·56	−0·11	10·2‡	13‡
	Loughborough	60	32	56·6	41·6	48·9	− 2·9	50	1	7	0·51	−0·17	9·1‡	12‡
	Cheadle ⚓	54	39	52·7	41·9	47·1	− 3·5	36	0	7	0·70	−0·15	*	*
	Churchstoke ⚓	57	40	54·5	43·4	48·8	− 2·8	48	0	6	1·03	+0·25	13·7	17
	Hereford ⚓	59	39	57·1	44·0	50·4	− 1·6	59	0	5	0·31	−0·37	*	*
	Cirencester	57	33	54·4	40·4	47·2	− 5·1	43	4	5	0·35	−0·40	16·9	21
	Oxford	59	39	56·6	44·4	50·3	− 2·2	58	0	4	0·34	−0·30	19·0	24
5. ENGLAND, S.	London	58	42	56·6	45·6	50·9	− 3·1	62	0	6	1·02	+0·41	12·6‡	16‡
	Strathfield Turgiss ⚓	60	40	57·2	43·6	50·2	− 3·0	57	0	7	0·71	+0·07	*	*
	Dungeness	60	44	57·7	47·7	52·6	− 1·3	74	0	6	0·93	+0·22	*	*
	Hastings (St. Leonard's)	60	43	57·6	46·7	52·0	− 1·9	70	0	6	1·31	+0·52	24·3	31
	Southampton	61	43	58·2	45·7	51·8	− 1·5	69	0	6	1·57	+0·81	19·7	25
	Hurst Castle	58	45	57·4	48·1	52·6	− 1·5	74	0	7	1·79	+1·04	*	*
	Stowell ⚓	58	39	54·5	43·5	48·8	− 4·1	48	0	6	0·87	?	14·9‡	19‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	58	37	55·8	42·9	49·2	− 1·5	50	0	5	1·70†	−0·06	*	*
	Glasgow	55	37	52·5	43·1	47·7	− 2·1	40	0	6	1·63	+0·68	14·1	18
	Ardrossan	59	40	?55·9	43·7	?49·6	−?0·6	?53	0	6	1·27	+0·32	*	*
	Glenlee ⚓	56	33	54·0	40·2	46·9	− 3·9	42	5	6	2·39	+1·06	*	*
	Douglas (Isle of Man)	57	38	54·4	43·7	48·9	− 2·1	48	0	6	1·41	+0·45	18·6	24
7. ENGLAND, N.W.	Newton Reigny (Penrith)	56	39	53·2	41·9	47·4	− 2·4	38	0	6	1·32	+0·51	6·0	8
	Barrow-in-Furness	57	45	54·1	45·6	49·7	− 2·3	54	0	5	0·72	−0·21	*	*
	Stonyhurst	55	38	52·8	43·3	48·1	− 2·7	43	0	6	1·58	+0·35	6·6	8
	Blackpool ⚓	58	41	55·6	44·2	49·7	− 2·7	54	0	5	0·65	−0·31	10·1	13
	Manchester	55	39	53·5	44·3	48·8	− 2·7	48	0	6	1·04	+0·06	*	*
	Liverpool Obsy (Bidston)	56	41	54·6	45·9	50·1	− 3·0	57	0	6	0·43	−0·39	*	*
	Llandudno ⚓	59	45	55·5	46·7	51·0	− 2·9	63	0	6	0·94	+0·07	8·2	10
	Holyhead	58	46	55·0	48·6	51·7	− 2·2	68	0	6	2·60	+1·65	*	*
8. ENGLAND, S.W.	Llandovery	62	30	57·3	41·1	49·0	− 3·9	53	3	6	2·27	+1·03	*	*
	Pembroke	57	46	55·4	48·7	52·0	− 1·4	70	0	5	1·16	+0·24	28·7	36
	Arlington (N. Devon)	57	39	54·1	43·7	48·8	− 4·0	48	0	6	2·43	+1·13	*	*
	Cullompton ⚓	62	36	57·4	43·8	50·4	− 3·3	59	0	6	0·69	+0·21	20·9	26
	Falmouth	59	44	56·4	46·3	51·2	− 3·7	64	0	6	1·22	−0·03	31·1	39
	Plymouth	60	39	57·0	45·4	51·0	− 3·8	63	0	6	1·10	+0·20	26·1	33
	Prawle Point	60	43	57·3	46·1	51·5	− 1·8	67	0	6	0·96	?	*	*
9. IRELAND, N.	Malin Head	55	45	53·0	47·1	50·0	+ 0·1	56	0	6	1·02	?	*	*
	Londonderry	57	40	55·1	44·2	49·5	− 0·9	53	0	6	1·82	+0·87	*	*
	Mullaghmore	57	42	54·1	46·3	50·1	− 1·0	57	0	6	1·97	+1·01	*	*
	Belmullet	57	45	53·6	48·1	50·8	− 1·2	62	0	5	2·28	?	*	*
	Markree Castle	55	37	52·6	44·0	48·2	− 2·8	43	0	6	2·00	+1·15	8·0	10
	Brookeborough	57	37	54·0	43·2	48·4	− 2·4	45	0	6	1·51	?	*	*
	Armagh	58	36	55·1	42·6	48·7	− 2·2	47	0	6	1·29	+0·59	10·5	13
	Donaghadee	57	45	54·4	47·7	51·0	− 0·7	63	0	6	1·13	+0·38	*	*
	Edgeworthstown	57	34	53·7	42·3	47·8	− 3·5	41	0	6	1·81	+1·08	*	*
10. IRELAND, S.	Dublin	57	41	54·1	45·7	49·8	− 2·1	55	0	5	1·49	+0·81	16·5	21
	Parsonstown	56	34	54·3	41·4	47·7	− 4·1	42	2	5	0·95	+0·19	16·5	21
	Kilkenny	58	34	56·0	43·4	49·5	− 2·8	53	0	6	0·82	+0·10	*	*
	Waterford	61	36	57·9	44·3	50·9	− 1·9	62	0	5	0·70	−0·22	*	*
	Roche's Point	62	44	56·3	46·7	51·1	− 2·3	64	0	2	0·65	−0·33	*	*
	Valencia	59	45	56·7	47·1	51·8	− 2·4	69	0	6	1·62	+0·37	26·9	34
	Killarney	59	40	55·8	44·2	49·8	− 3·5	55	0	6	2·32	?	*	*
	Foynes	56	42	54·2	46·5	50·2	− 2·4	57	0	6	1·27	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	59	49	57·0	51·0	53·9	− 2·5	83	0	6	0·88	0·00	*	*
	Jersey	63	44	58·9	49·1	53·9	− 2·9	83	0	6	1·34	+0·41	30·5	39

Stations marked ⚓ are in connection with the Royal Meteorological Society, and those marked ⚓ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

(OFFICIAL COPY.)

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 16, NORTH BRIDGE, EDINBURGH; AND HODGES FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VI. No. 41.] *Third Series.* WEEK ENDING MONDAY, 14TH OCTOBER, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 246.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	55	27	51·5	37·1	44·1	3 below.	35	− 5	14	+ 8	1898	+155	535	+ 18
	1. SCOTLAND, EAST	59	24	51·9	33·2	43·8	3 below.	37	−10	16	+ 9	2201	− 30	573	+ 22
	2. ENGLAND, N.E.	59	34	53·1	41·1	46·9	2 below.	38	−13	3	− 1	2359	− 34	496	+ 11
	3. ENGLAND, EAST	60	31	55·7	38·5	46·9	5 below.	49	− 8	10	+ 7	2697	− 54	637	+127
	4. MIDLAND COUNTIES	62	29	55·8	35·7	45·5	5 below.	51	− 2	18	+13	2671	− 49	591	+ 79
	5. ENGLAND, SOUTH	61	30	57·1	40·4	48·5	4 below.	52	−12	4	+ 2	2960	− 15	452	+ 76
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	58	29	53·3	38·0	45·4	4 below.	41	−10	11	+ 7	2350	+ 9	387	− 15
	7. ENGLAND, N.W.	57	29	53·2	41·0	46·9	4 below.	39	−14	3	+ 1	2509	+ 9	385	+ 1
	8. ENGLAND, S.W.	62	29	55·5	40·9	48·0	5 below.	47	−20	3	+ 2	2731	−103	324	+ 90
	9. IRELAND, NORTH	58	30	53·7	39·0	46·1	3 below.	41	−10	8	+ 5	2443	+ 21	305	− 47
	10. IRELAND, SOUTH	60	30	54·4	38·6	46·3	5 below.	44	−17	10	+ 7	2719	− 18	235	− 5
	— CHANNEL ISLANDS	61	40	57·5	46·7	52·0	4 below.	70	−13	0	0	3145	+ 64	77	− 16

Rainfall. **Bright Sunshine.**

	DISTRICTS. (See p. 246.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of I.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	4	5	3 less.	190	+15	32·3	+0·3	17	23	873	−234	23	− 6
	1. SCOTLAND, EAST	5	7	0 (average)	156	+ 6	21·3	−3·9	22	29	1124	−130	30	− 3
	2. ENGLAND, N.E.	5	12	6 more.	143	− 1	19·3	−2·1	18	23	1049	−108	28	− 3
	3. ENGLAND, EAST	3	3	3 less.	147	0	21·0	+0·9	38	51	1189	−208	32	− 5
	4. MIDLAND COUNTIES	3	3	4 less.	137	− 7	22·4	−0·7	32	43	1111	−139	30	− 3
	5. ENGLAND, SOUTH	4	10	3 more.	139	0	19·8	−1·6	32	42	1191	−152	32	− 4
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	4	11	0 (average).	163	+ 1	32·3	−3·9	22	29	1186	− 30	31	− 1
	7. ENGLAND, N.W.	4	11	1 more.	149	− 2	25·5	−1·5	29	39	1150	− 69	30	− 2
	8. ENGLAND, S.W.	6	10	1 less.	150	− 7	26·7	−6·5	35	46	1364	− 87	37	− 2
	9. IRELAND, NORTH	5	9	1 more.	182	+ 2	30·7	+2·8	29	39	998	−127	26	− 4
	10. IRELAND, SOUTH	5	7	2 less.	161	− 6	28·2	−2·5	31	42	1241	− 53	33	− 1
	— CHANNEL ISLANDS	5	16	6 more.	155	−15	20·8	−3·9	38	50	1573	−144	42	− 4

General Remarks.

Weather continued unsettled during the greater part of the period, with frequent falls of rain, but in most parts of the Kingdom some fine bright intervals were experienced. Thunder and lightning occurred in some parts of Scotland during the early days of the week and also at some of our southern stations on the 11th and 12th.

Temperature has again been below the mean, the deficit having ranged from 2° in "England, N.E." to 4° or 5° in most other districts. The highest of the maxima, which were registered in most places on the 10th, ranged from 55° in "Scotland, N." to 62° in "England, S.W." and the "Midland Counties". The daily maxima did not, as a rule, differ materially from the normal for the time of year, but the minima were, with few exceptions, decidedly low. The absolute minima for the week were recorded generally either on the 13th or 14th, when the thermometer fell to between 24° and 29° in Scotland, to 30° in Ireland, and to between 29° and 34° over England. In the "Channel Islands" temperature did not fall below 40°.

Rainfall has been rather more than the mean in "England, N.E.", "England, S.", "England, N.W.", "Ireland, N.", and the "Channel Islands", and about equal to it in the west and east of Scotland, but in all other districts a deficit is shown.

Bright sunshine has been more prevalent than it was last week in most places. The percentage of the possible amount of duration ranged from 23 in "England, N.E." and "Scotland, N." and 29 in the east and west of Scotland to 46 in "England, S.W.", 50 in the "Channel Islands", and 51 in "England, E."

Barometer and Wind.—At the commencement of the period the deep depression noticed at the close of last week was travelling away to the northward of Scotland. This disturbance was quickly followed by another system which passed over our extreme north-west coasts; it was, however, less deep than its predecessor and the wind increased to the force of a gale at some of our north-western stations only. As this disturbance disappeared to the northward a large, but shallow, area of low readings was formed over England, while a well marked shallow system passed over the eastern counties from the southward. Towards the end of the week the barometer rose steadily over England and Scotland, where a ridge of comparatively high pressure was formed. In the extreme west, however, the mercury began to fall again somewhat decidedly and the wind showed some tendency to increase in force from the Southward and South-Eastward.

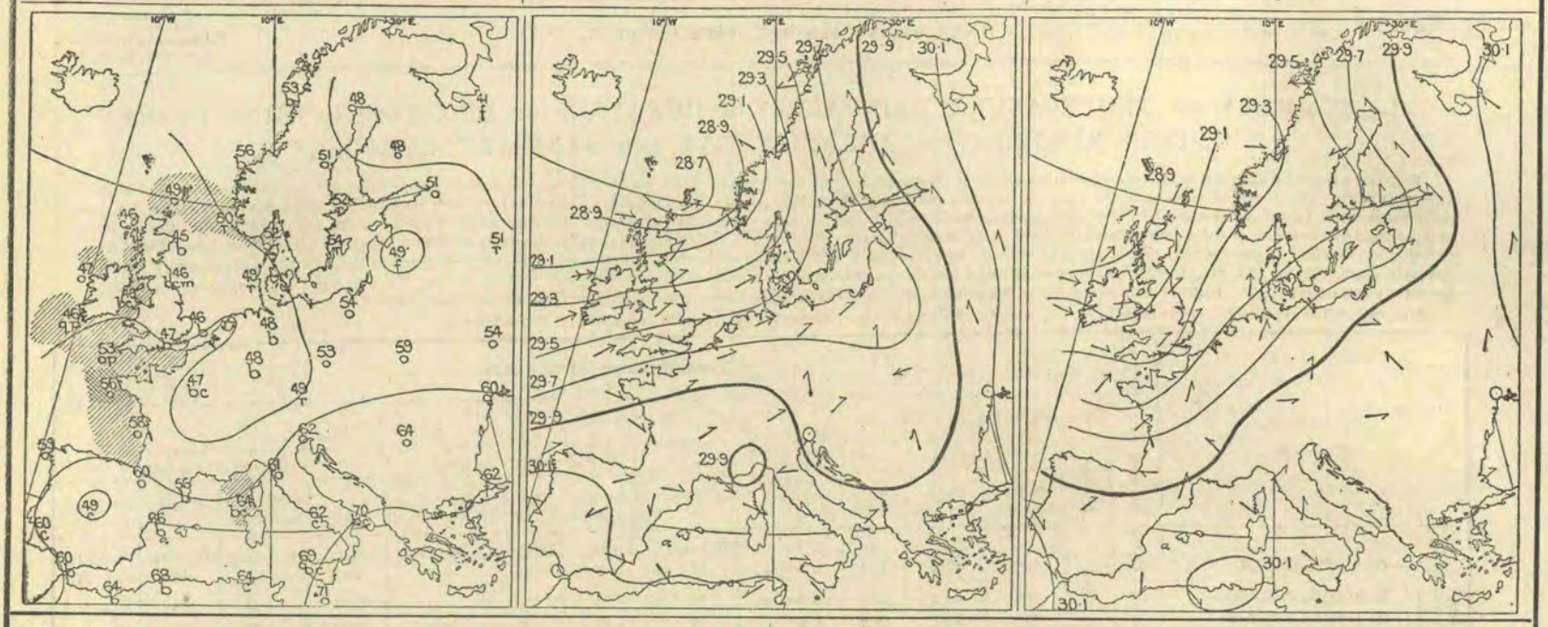
60283. 350.—10/89. Wt. 36. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 8th October.

Temperature and Weather. **8 a.m.**

Barometer and Wind. **8 a.m.** **6 p.m.**



Weather fine in the eastern parts of Great Britain and the west of Norway as well as over the greater part of southern Europe. Cloudy or overcast elsewhere, with showers in the west and south-west of our Islands, and steady rain in the southern parts of Sweden and Norway, as well as at some of the German stations. Very heavy rain falling later over the south of England, the Channel, and the north of France; thunderstorms occurring at York and Prawle Point, lightning seen at Aberdeen.

Temperature highest, 60° to 70°, over Italy, the Adriatic, and the Mediterranean; lowest, 45° or less, in the northern parts of the United Kingdom and the extreme north of Russia. Daily maxima below 50° in the north of Ireland, below 55° in Scotland, and below 60° over England, but thermometer rising above 70° in Spain and the south of Italy, and above 80° at some of the Algerian stations; highest reading of all being 82° at Algiers.

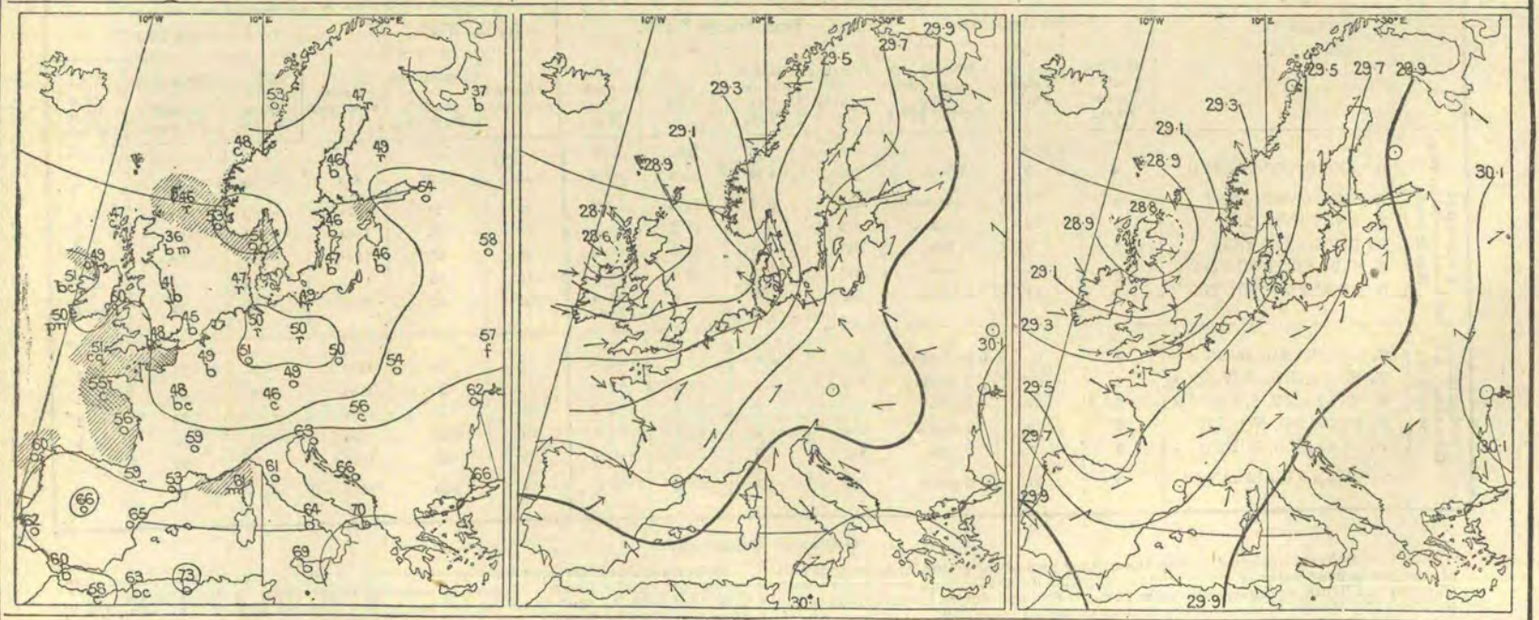
Wind fresh or strong from the South-Westward or Westward in the west and south of our Islands as well as in Denmark and north Germany; moderate from South-West or South on the east coast of Great Britain. Southerly or South-Easterly over Scandinavia, Russia, and Austria, with a gale on the Norwegian coasts; variable over southern Europe and the Mediterranean. Increasing at night to a strong gale over the eastern parts of the English Channel.

Barometer highest, 30·1 ins. and upwards, in two large areas,—one lying over Russia and the other over Algeria and the greater part of the Iberian peninsula. Lowest, 28·7 ins. and less, in a deep depression which had travelled from the south of Scotland to the northern parts of the Shetland Islands; shallow disturbance with readings below 29·9 ins. lying over the Riviera. Depression in north subsequently disappearing from our area, but barometer falling generally, and new disturbance forming over the south of England.

Wednesday, 9th October.

Temperature and Weather. **8 a.m.**

Barometer and Wind. **8 a.m.** **6 p.m.**



Weather fine in the eastern parts of Great Britain as well as in Sweden, Italy and Algeria. Cloudy or overcast elsewhere, with showers in the west and south of our Islands, and steady rain on our north-west coasts, as well as in Denmark and north Germany. Rain falling later in nearly all parts of western, northern, and central Europe, very heavily at some of the central French stations.

Temperature highest, 65° and upwards, over the Adriatic and the central and southern parts of the Mediterranean; lowest, 40° or less, in Scotland and the extreme north of Russia. Daily maxima below 55° at most of our northern stations, and below 50° in the Hebrides and the north-east of Scotland. Thermometer rising above 70° in many parts of southern Europe, and above 80° in Algeria, the highest reading of all being 86° at Algiers.

Wind strong from the Westward in the west and south of our Islands, with gales in exposed places, but moderate from the South-Westward in the east of England, as well as in Spain, France, and Western Germany. South-Easterly over northern and eastern Europe, and also in Algeria; strong to a gale on the eastern shores of the North Sea. Subsequently veering to the North-Westward in the north of Ireland, but backing to the Southward in France.

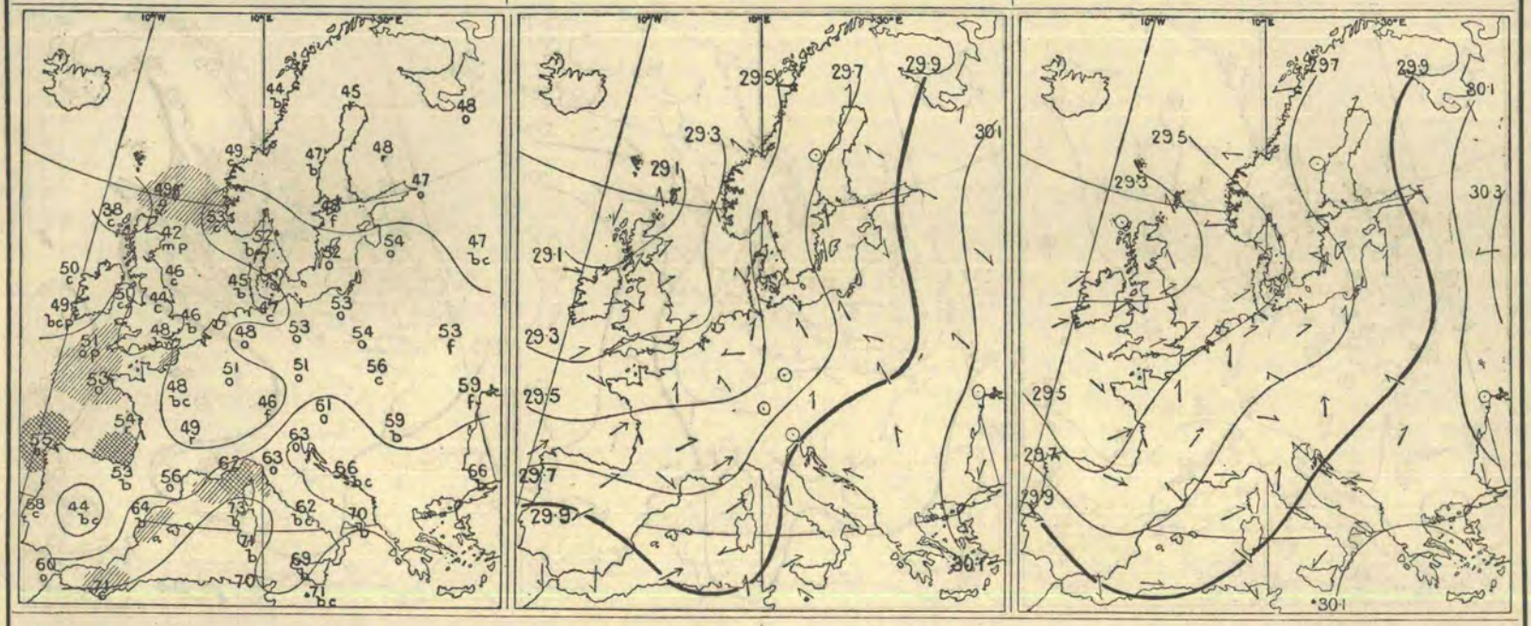
Barometer highest, 30·1 ins. and upwards, in two large areas lying respectively over the south of Russia and the eastern parts of the Mediterranean. Lowest, 28·6 and less, in a well marked depression which had appeared off the north of Ireland; 29·1 ins. and less in a secondary disturbance lying off the west coast of Denmark. Primary system moving later to the north-east of Scotland and becoming less deep; secondary disturbance filling up entirely.

II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 10th October.

Temperature and Weather. **Barometer and Wind.**

8 a.m. **8 a.m.** **6 p.m.**



Weather showery at some of our own western and northern stations, and dull and unsettled over Sweden, Finland, France, and the greater part of central Europe, with rain in many places. Fine in the east and south of England, as well as in Russia, Spain, Italy, and Algeria. Heavy rain falling later at some of the western French stations; thunderstorms occurring in Kent; and lightning seen at several of the Channel stations.

Temperature highest, 70° or a little above, over the central and southern parts of the Mediterranean; lowest, 40° or a little below, over central Scotland, 45° or less over the central parts of England, Ireland, and Spain. Daily maxima over our Islands higher than on previous day; thermometer reaching 60° at Jersey, Cambridge, and in London. Rising above 70° in many parts of southern Europe, and above 80° in Sicily and Algeria. Frost occurring at night over the central parts of Ireland and England.

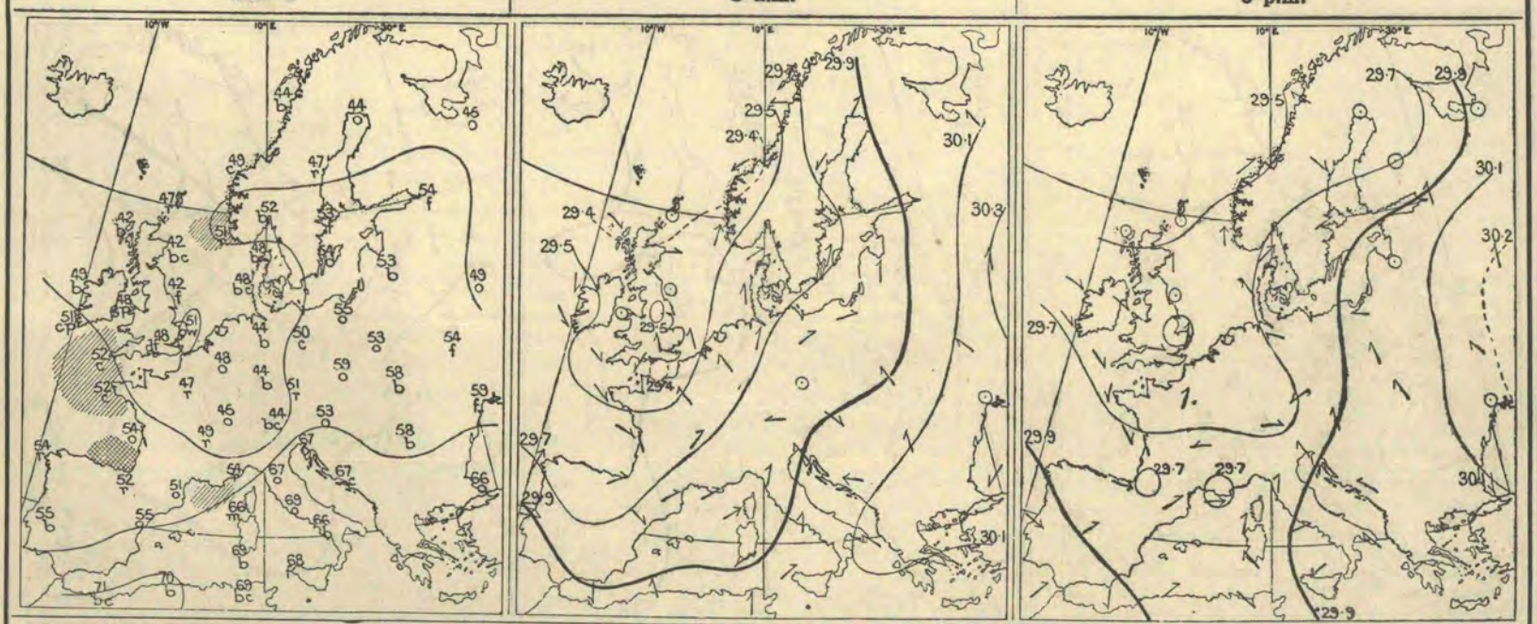
Wind South-Westerly over the greater part of our Islands, France, and Spain, but Southerly or South-Easterly in nearly all the more northern, eastern, and central countries, as well as in Italy and Algeria. Strong breezes or moderate gales reported over the south of Norway, and on the shores of the Gulf of Genoa. Subsequently backing to the South-Eastward over the western parts of the Channel, but veering to the Westward in Spain.

Barometer highest, 30·2 ins. and upwards, in a large anticyclone lying over central Russia; high, 30·0 ins. and upwards, in a smaller system lying off the south of Spain. Lowest, 29·1 ins. and less, in a large shallow depression lying over and to the north-westward of Scotland; small subsidiary disturbances passing across England, France, and central Europe. Depression in north filling up during day, but small system advancing from the south-westward over the Bay of Biscay and the north-west of France.

Friday, 11th October.

Temperature and Weather. **Barometer and Wind.**

8 a.m. **8 a.m.** **6 p.m.**



Weather fine at some of our own western and northern stations, as well as over Denmark and the southern parts of Russia, Italy, and Spain. Cloudy or overcast elsewhere, with rain over northern and central Europe and the south-east of England. Fog reported in Finland and the northern parts of England. Rain falling later in the north and east of England, and smart thunderstorms occurring in some of our western and south-western counties; lightning seen in the south at night.

Temperature highest, 65° and upwards, over Italy, Turkey, and Algeria; lowest, 35° or less, in some of the central parts of Ireland and England. Daily maxima below 50° over central England, and below 60° in nearly all parts of western Europe, but thermometer rising above 70° in Italy and many parts of Spain, and above 80° at some of the Algerian stations, highest reading of all being 86° at Tunis and Biskra.

Wind light or moderate from the Southward (South-East to South-West) over by far the greater portion of the Continent, but Westerly in Spain and the west of France, and North-Westerly or Northerly in the south-west, west, and extreme north of our Islands. Subsequently veering to the Westward in the south-east of England and also over the Gulf of Finland.

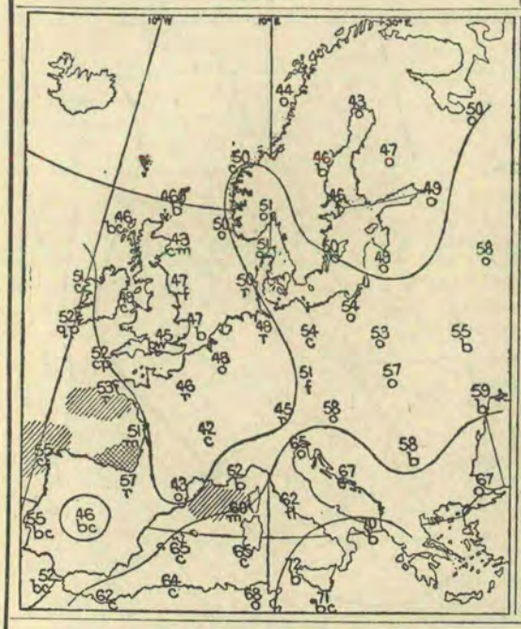
Barometer highest, 30·3 ins. and upwards, in a large anticyclone lying over Russia; lowest, 29·4 ins. and less, in a large area lying to the northward of our Islands and the westward of Norway, but small shallow depressions lying respectively over the south of Sweden, the eastern part of the English Channel, and the southern part of the Bay of Biscay. Depression over eastern part of Channel subsequently moving slowly northwards; disturbance over Bay of Biscay moving eastwards over France.

II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 12th October.

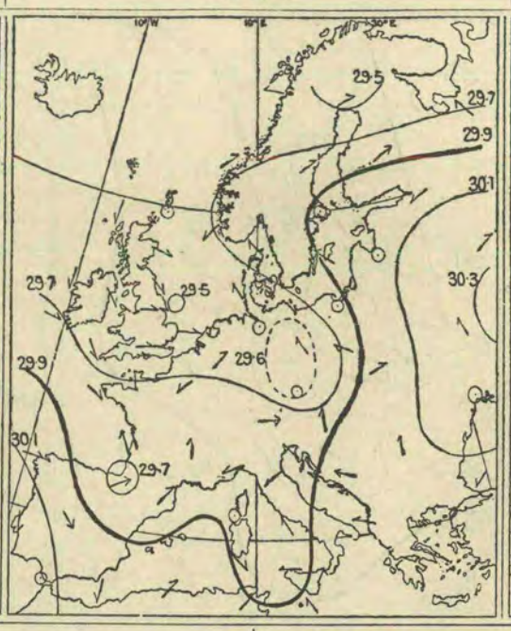
Temperature and Weather.

8 a.m.



Barometer and Wind.

8 a.m.



6 p.m.

Weather rainy in the north of England and south of Scotland, as well as in Denmark, Germany, and the south-west of France; showery on the west coasts of our Islands. Fair in most other localities, but foggy at some of the English stations, and also at Stockholm and the Helder. Thunderstorm reported at Rome. Heavy rain falling during day in the north of England, as well as in the neighbourhood of the Skager Rack, and in some parts of Italy.

Temperature highest, 65° and upwards, over the Adriatic and the more central parts of the Mediterranean; lowest, 45° or less, in many parts of the United Kingdom, and also in the north of Scandinavia. Daily maxima very little above 55° in any part of our Islands, but thermometer rising above 60° at some of the French stations, and above 70° in Algeria, Italy, and southern Austria. Ground frost occurring over the central parts of England and Ireland at night.

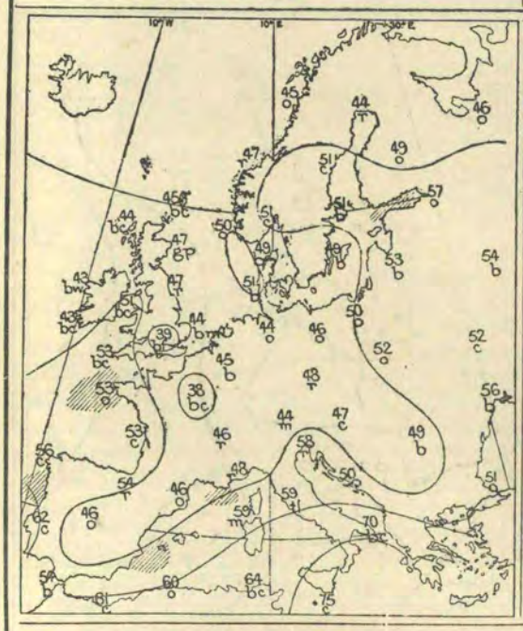
Wind light from the Westward or North-Westward over England, the south of Ireland, and the north of France, as well as at the Spanish stations; South-Easterly over the greater part of eastern and central Europe; Southerly in Algeria. Westerly or South-Westerly over the northern parts of Scandinavia and Russia, with a gale at Ulcaborg; variable in the north of our Islands. South-Westerly winds setting in later over Denmark, and Northerly breezes on our own western and northern coasts.

Barometer highest, 30·4 ins. and upwards, in an anticyclone lying over the southern parts of central Russia, high, 30·1 ins. and upwards, in another system lying over the south-west of the Iberian peninsula; lowest, 29·5 ins. and less, in a depression lying over Lapland, and also in a very small and shallow system lying off the north-east of England; low, 29·6 ins. and less, in a well-defined disturbance lying over Germany. German depression subsequently travelling northwards to the neighbourhood of the Skager Rack.

Sunday, 13th October.

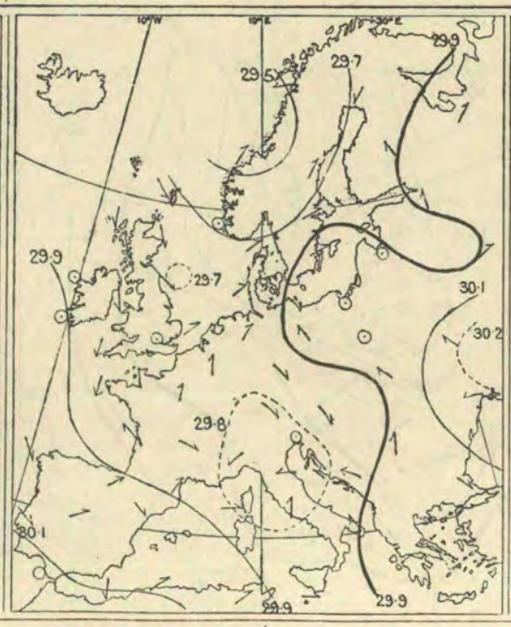
Temperature and Weather.

8 a.m.

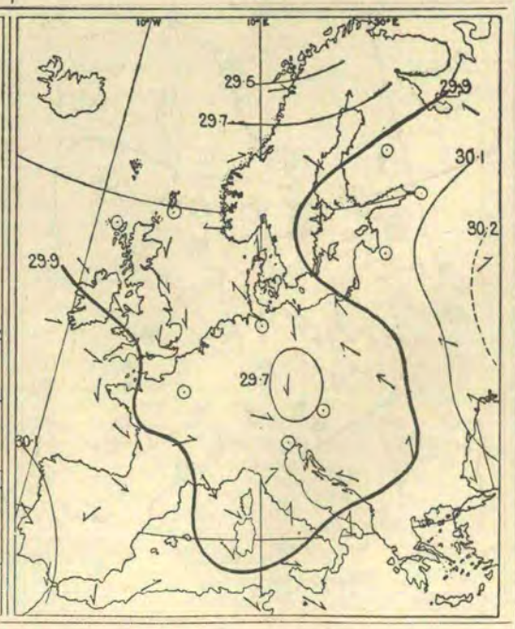


Barometer and Wind.

8 a.m.



6 p.m.



Weather rainy in the north of Scandinavia, the north-east of Great Britain, and the south of France, as well as at many of the Italian stations, with a thunderstorm at Rome; foggy over the southern parts of central England. Fine in most other localities, but dull over the greater part of central Europe. Heavy rain falling later at some of the Austrian and German stations as well as in the south-west of France.

Temperature highest, 60° and upwards, over the central and southern parts of the Mediterranean; lowest, 40° or less, over the central parts of England, Ireland, and France. Rising during day to a little above 60° at some of the Channel stations, and to 70° or more over Algeria and the southern parts of Italy and Austria, the highest readings of all being 81° at Malta and 79° at Brindisi. Sharp frost occurring at night over the inland parts of Great Britain; sheltered thermometer falling to 29° at Loughborough and to 27° at Nairn.

Wind light from the North-Westward or Northward over our Islands as well as over the greater part of the Iberian peninsula, but South-Westerly or Southerly in Scandinavia, Denmark, and the Netherlands, and South-Easterly or Easterly in the south of Russia. Very variable in Italy; light from the Westward in Algeria. Cyclonic circulation appearing later over Germany; wind backing to the South-Eastward in Denmark.

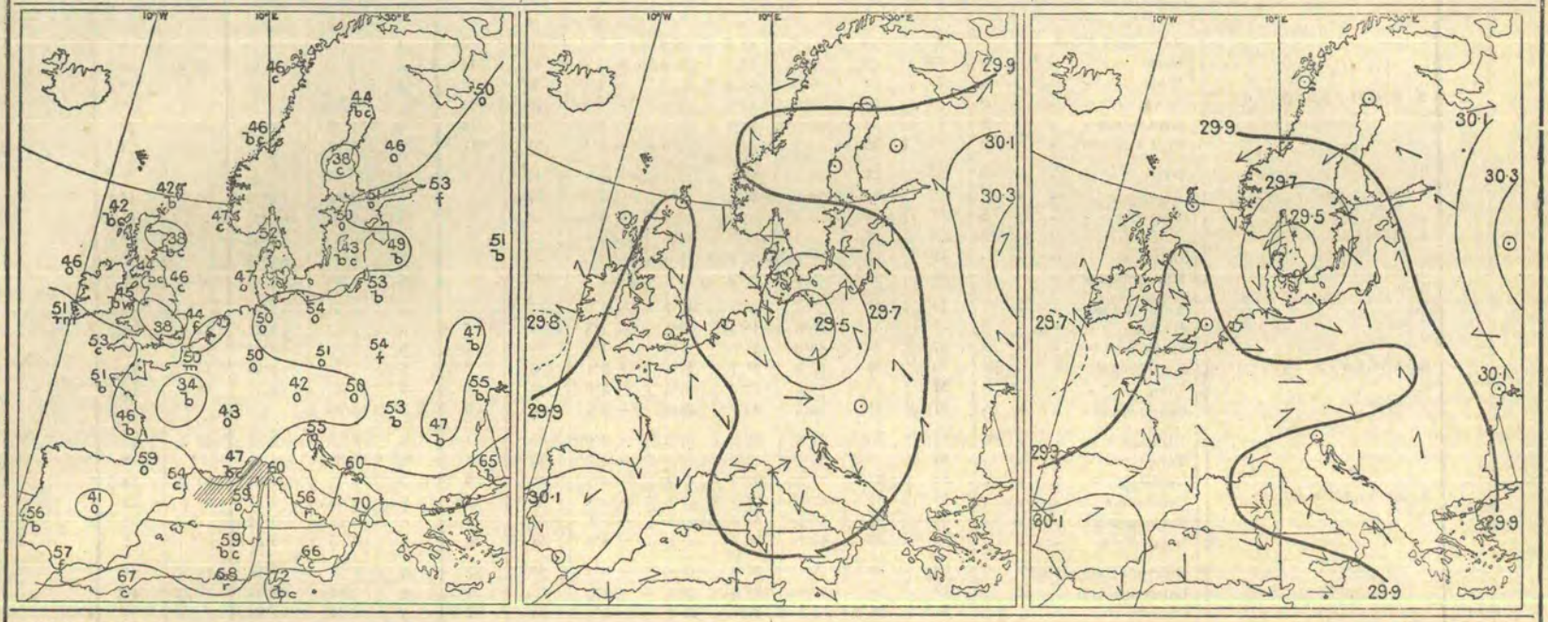
Barometer highest, 30·3 ins. and upwards, in a small anticyclone lying over the south of Russia; high, 30·1 ins. and upwards, in a larger system lying over Algeria and the extreme south of Spain. Lowest, 29·5 ins. and less, in a large depression lying over Scandinavia; low, 29·8 ins. and less, in another large but somewhat shallower disturbances lying over the south of France and the northern parts of Italy and the Adriatic. Former depression subsequently travelling away to the northward; latter moving north-eastwards to Bohemia, and growing deeper.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 14th October.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather dull and unsettled in Denmark, Germany, and the south of Scandinavia, as well as at some of the Irish, Italian, and Algerian stations, with rain in many places. Fine in most other localities, but foggy over the central parts of England and France, and also over the Gulf of Finland. Rain falling during day in all the more western parts of the United Kingdom, as well as over northern and central Europe,—heavily in the neighbourhood of the Skager Rack.

Temperature highest, 65° and upwards, over the central and southern parts of the Mediterranean; lowest, 35° or less, over the central parts of England, Scotland, and France. Daily maxima below 60° in all parts of our Islands, excepting Jersey, but thermometer rising above 70° over Algeria and the southern parts of Spain and Italy, the highest reading of all being 77° at Biskra, Laghouat, and Palermo.

Wind light or moderate from the South-Eastward in the west of our Islands, but North-Westerly over our east coasts, the North Sea, the Netherlands, and the east of France. South-Westerly over the extreme northern parts of Scandinavia and Russia, and the southern parts of the Mediterranean: light and variable in Italy; cyclonic circulation of moderate breezes reported over Denmark and Germany. Subsequently becoming Westerly at all the German stations, and shifting to the Northward on the Algerian coasts.

Barometer highest, 30·3 ins. and upwards, in an anticyclone lying over central Russia; high, 30·2 ins. and upwards, in another system lying over central Spain; lowest, 29·5 ins. and less, in a well marked depression lying over Germany; low, 29·8 ins. and less, in shallower disturbances lying respectively to the southward of Ireland, and over the Gulf of Genoa. German depression subsequently travelling northwards to the Kattegat; disturbance off the south of Ireland also moving slowly in a northerly direction.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the whole of the week barometric pressure has remained highest in a large anticyclone lying over Russia, but high in a second area lying over or to the south-westward of the Iberian peninsula, and conditions have therefore been favourable for the development of depressions over Central Europe. The deep disturbance which passed across the north of our Islands at the close of the previous week was succeeded on the 9th by another system of less intensity, which travelled north-eastwards from the north of Ireland to the north-east of Scotland, where it quickly dispersed. Its progress was accompanied by a renewal of rough stormy weather on several parts of our western and southern coasts. During the remainder of the week two well-defined depressions travelled northwards from Central Europe to Scandinavia, while smaller and shallower systems moved in a similar direction across France and the south-east and east of England. The passage of each disturbance was attended by considerable quantities of rain, but the systems were in no instance of sufficient depth to produce any serious increase in the force of the wind. At the close of the week a well-marked cyclonic disturbance was beginning to approach the south-west of our Islands, and freshening southerly winds, with rain, were setting in at many of our western stations.

III.—DATA from which the SUMMARY on page 241 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches	Inches.		
0. SCOTLAND, N.	Sumburgh Head ⁂	55	36	51·3	42·1	46·6	− 0·8	32	0	4	1·32	+0·34	*	*
	Stornoway	54	33	51·9	37·1	44·3	− 2·6	37	14	3	0·08	−1·02	36·2	50
	Wick	55	34	53·0	38·4	45·5	− 1·5	40	10	4	0·98	+0·33	*	*
	Lairg ⁂	54	27	51·6	33·7	42·5	− 3·8	38	23	2	0·02	−0·93	*	*
	Glencarron ⁂	54	33	50·9	35·5	43·0	− 3·8	34	18	5	0·28†	−1·59	8·0	11
	Fort Augustus ⁂	54	32	50·1	35·9	42·8	− 5·5	31	17	5	0·31	?	5·6	8
1. SCOTLAND, E.	Nairn	56	27	53·3	35·3	44·2	− 3·7	44	19	3	0·27	−0·28	*	*
	Aberdeen	56	33	52·0	37·1	44·3	− 3·4	37	14	4	0·80	+0·13	34·2	46
	Braemar ⁂	51	24	48·3	33·4	40·6	− 4·1	18	33	4	0·21	−0·70	14·3‡	19‡
	Ochtertyre ⁂	58	32	52·7	35·0	43·6	− 3·9	41	20	5	0·69	−0·32	*	*
	Leith ⁂	59	35	52·9	38·1	45·3	− 3·2	39	11	5	0·52	+0·05	*	*
	Marchmont ⁂	57	33	52·0	38·0	44·8	− 1·3	36	11	6	1·66	+0·90	16·3	22
2. ENGLAND, N.E.	Alnwick Castle	54	36	51·7	40·1	45·7	− 2 6	34	5	5	1·48	+0·85	*	*
	Durham	59	34	53·8	40·3	46·9	− 1·8	41	5	6	0·77	+0·11	22·6	30
	Shields	57	39	53·3	41·6	47·3	− 1·6	39	1	5	1·50	+0·92	*	*
	Scarborough ⁂	54	36	52·3	41·1	46·5	− 3·1	35	3	6	1·70	+0·99	13·7‡	18‡
	York	57	34	54·3	39·3	46·6	− 3·6	44	8	4	1·31	+0·70	16·3	22
	Spurn Head	57	41	53·4	43·9	48·6	− 1·6	46	0	3	0·36	?	*	*
3. ENGLAND, E.	Hillington ⁂	57	33	54·6	38·2	46·2	− 3·9	45	11	4	0·35	−0·25	33·7	45
	Yarmouth	57	38	54·1	41·0	47·4	− 4·3	42	3	4	0·37	−0·31	*	*
	Geldeston	59	36	56·3	39·8	47·8	− 4·0	50	6	3	0·35	−0·26	40·3	54
	Cambridge	60	31	57·3	37·4	47·1	− 4·7	55	13	2	0·32	−0·31	40·0	53
	Rothamsted	58	31	55·2	35·9	45·3	− 5·5	49	17	3	0·29	−0·41	*	*
	Ingatestone	58	33	56·7	38·5	47·3	− 4·3	52	10	4	0·36	−0·31	*	*
4. MIDLAND	Bawtry (Hesley Hall)	59	30	54·1	36·0	44·8	− 5·7	45	17	3	0·57	−0·11	18·0‡	24‡
	Loughborough	59	29	56·4	36·3	46·1	− 4·2	53	16	2	0·12	−0·56	31·7‡	42‡
	Cheadle ⁂	55	34	54·1	37·7	45·7	− 3·5	44	12	4	0·54	−0·32	*	*
	Churchstoke ⁂	57	29	56·0	34·6	45·0	− 4·8	52	21	3	0·23	−0·57	39·9	53
	Hereford ⁂	62	30	59·1	34·7	46·5	− 4·1	62	20	2	0·11	−0·57	*	*
	Cirencester	58	29	55·1	32·7	43·6	− 7·1	50	26	4	0·32	−0·41	33·5	45
	Oxford	59	32	55·9	37·7	46·5	− 4·4	50	12	2	0·23	−0·38	37·0	49
5. ENGLAND, S.	London	60	35	57·9	40·4	48·9	− 3·4	55	4	4	0·27	−0·34	25·3‡	34‡
	Strathfield Turgiss ⁂	59	30	57·3	35·3	46·0	− 5·8	56	19	4	0·28	−0·34	*	*
	Dungeness	58	36	56·3	42·6	49·3	− 3·2	51	0	5	2·18	+1·46	*	*
	Hastings (St. Leonard's)	59	42	57·6	44·0	50·6	− 1·8	60	0	5	2·13	+1·32	33·2	44
	Southampton	61	32	58·8	39·3	48·8	− 3·4	59	8	4	0·53	−0·22	30·4	40
	Hurst Castle	59	39	57·0	43·9	50·3	− 2·5	58	0	5	1·24	+0·51	*	*
	Stowell ⁂	57	30	54·5	37·5	45·8	− 5·6	46	13	4	0·32	?	38·1‡	50‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	56	36	54·0	39·9	46·7	− 2·6	42	6	5	1·31†	−0·46	*	*
	Glasgow	54	36	51·3	38·5	44·7	− 3·4	34	10	3	0·71	−0·22	7·9	11
	Ardrossan ⁂	55	36	?53·9	41·4	?47·5	−?1·5	?41	2	5	1·15	+0·18	*	*
	Glenlee ⁂	56	29	51·7	34·0	42·6	− 6·5	38	22	5	1·43	+0·10	*	*
	Douglas (Isle of Man)	58	33	55·4	36·3	45·6	− 4·5	49	16	4	0·88	−0·09	35·4	47
7. ENGLAND, N.W.	Newton Reigny (Penrith)	56	29	52·2	36·3	44·0	− 4·2	38	16	5	2·11	+1·31	29·6	39
	Barrow-in-Furness	55	39	52·7	43·0	47·7	− 3·2	40	0	4	2·11	+1·18	*	*
	Stonyhurst	54	34	52·0	39·9	45·8	− 3·5	35	6	5	0·31	−0·94	25·4	34
	Blackpool ⁂	56	34	53·0	40·5	46·6	− 4·8	39	4	4	1·54	+0·57	32·2	43
	Manchester	56	35	52·9	39·6	46·1	− 3·9	39	7	4	0·19	−0·79	*	*
	Liverpool Obsr (Bidston)	56	38	53·9	41·6	47·6	− 4·2	41	1	3	0·98	+0·16	*	*
	Llandudno ⁂													
	Holyhead	57	42	55·4	46·1	50·6	− 2·0	60	0	5	0·30	−0·70	*	*
8. ENGLAND, S.W.	Llandovery												*	*
	Pembroke	56	44	54·7	46·6	50·5	− 2·4	60	0	6	0·38	−0·55	38·0	51
	Arlington (N. Devon)	58	32	54·7	37·1	45·6	− 6·0	46	14	6	1·31	0·00	*	*
	Cullompton ⁂	58	29	56·8	33·8	45·1	− 7·1	56	23	6	0·81	−0·09	32·5	43
	Falmouth	56	41	54·7	43·3	48·8	− 5·0	48	0	6	1·09	−0·16	39·4	52
	Plymouth	58	35	55·5	40·9	48·0	− 5·4	47	3	5	1·22	+0·36	29·4	39
	Prawle Point	62	41	56·6	43·9	50·1	− 2·6	57	0	5	1·05	?	*	*
9. IRELAND, N.	Malin Head	55	40	52·3	43·6	47·8	− 1·2	41	0	4	1·15	?	*	*
	Londonderry	58	35	54·6	38·1	46·1	− 3·0	45	11	5	1·16	+0·18	*	*
	Mullaghmore	56	38	54·4	43·0	48·5	− 1·1	46	0	5	1·43	+0·51	*	*
	Belmullet	55	41	53·3	44·1	48·5	− 2·5	46	0	5	1·67	?	*	*
	Markree Castle	56	30	53·7	35·3	44·2	− 5·1	44	19	6	1·02	+0·14	26·3	35
	Brookeborough	57	30	53·4	34·0	43·4	− 5·4	43	22	5	0·64	?	*	*
	Armagh	58	32	54·0	37·4	45·5	− 3·6	44	13	3	0·13	−0 57	32·1	43
	Donaghadee	58	34	54·9	39·7	47·1	− 3·5	45	6	5	0·34	−0·41	*	*
	Edgeworthstown	56	31	52·4	35·4	43·7	− 5·3	40	18	3	0·30	−0·40	*	*
10. IRELAND, S.	Dublin	56	35	53·0	40·2	46·4	− 4·1	38	5	2	0·12	−0·58	33·5	45
	Parsonstown	56	32	54·1	35·9	44·7	− 5·3	45	17	5	0·43	−0·32	23·5	31
	Kilkenny	57	30	54·0	34·3	43·9	− 6·4	46	22	4	0·29	−0·41	*	*
	Waterford	60	30	56·1	35·7	45·6	− 6·3	52	18	6	0·50	−0·42	*	*
	Roche's Point	57	38	54·9	40·6	47·5	− 4·8	44	4	5	0·53	−0·42	*	*
	Valencia	58	40	55·9	43·7	49·6	− 3·5	53	0	7	1·15	−0·19	37·3	50
	Killarney	55	33	53·9	37·6	45·5	− 6·3	43	12	6	1·33	?	*	*
	Foynes	55	36	53·2	40·7	46·8	− 4·1	39	4	7	0·96	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	58	46	56·0	48·0	51·9	− 3·5	69	0	5	1·14	+0·26	*	*
	Jersey	61	40	59·0	45·3	52·0	− 3·5	70	0	5	1·98	+1·00	37·8	50

Stations marked ⁂ are in connection with the Royal Meteorological Society, and those marked ⁂ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright-Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

(OFFICIAL COPY.)

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VI. No. 42.] *Third Series.* WEEK ENDING MONDAY, 21ST OCTOBER, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 252.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	57	31	52·5	43·0	47·6	2 above.	39	+ 6	0	− 9	1937	+159	535	+ 12
	1. SCOTLAND, EAST	55	31	51·6	41·1	46·3	1 above.	34	− 4	3	− 7	2235	− 36	576	+ 22
	2. ENGLAND, N.E.	58	35	53·2	43·4	48·1	1 above.	43	+ 3	0	− 6	2402	− 36	496	+ 8
	3. ENGLAND, EAST	62	32	55·6	43·5	49·3	0 (average).	51	+ 6		− 6	2748	− 51	637	+125
	4. MIDLAND COUNTIES	60	30	54·5	40·9	47·5	1 below.	43	0		− 5	2714	− 51	594	+ 78
	5. ENGLAND, SOUTH	62	32	56·6	45·8	51·1	0 (average).	64	+12	0	− 4	3024	− 6	452	+ 75
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	60	39	53·8	43·2	48·3	1 above.	44	+ 2	0	− 7	2394	+ 6	387	− 17
	7. ENGLAND, N.W.	56	35	52·8	43·2	47·8	1 below.	41	− 3	0	− 4	2550	+ 4	385	0
	8. ENGLAND, S.W.	58	36	54·7	44·8	49·6	2 below.	53	− 5	0	− 2	2785 *	−111	327 *	+ 93
	9. IRELAND, NORTH	58	37	53·4	44·9	49·0	1 above.	49	+ 6	0	− 5	2492	+ 22	305	− 49
	10. IRELAND, SOUTH	60	34	54·4	43·8	48·9	1 below.	48	− 4	0	− 4	2767	− 27	235	− 6
	— CHANNEL ISLANDS	60	43	56·8	49·0	52·7	2 below.	75	+ 1	0	0	3220	+ 62	77	− 16

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 252.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	5	7	1 less.	195	+16	33·0	+0·2	21	30	894	−230	23	− 6
	1. SCOTLAND, EAST	5	11	4 more.	161	+ 7	22·4	−3·5	4	6	1128	−146	29	− 4
	2. ENGLAND, N.E.	6	11	5 more.	149	0	20·4	−1·6	5	7	1054	−120	27	− 3
	3. ENGLAND, EAST	6	13	6 more.	153	+ 2	22·3	+1·5	18	24	1207	−210	32	− 5
	4. MIDLAND COUNTIES	7	9	2 more.	144	− 4	23·3	−0·5	10	14	1121	−153	29	− 5
	5. ENGLAND, SOUTH	6	17	10 more.	145	+ 3	21·5	−0·6	11	14	1202	−163	32	− 4
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	4	6	4 less.	167	+ 1	32·9	−4·3	6	9	1192	− 38	31	− 1
	7. ENGLAND, N.W.	6	11	1 more.	155	0	26·6	−1·4	5	6	1155	− 78	30	− 2
	8. ENGLAND, S.W.	7	22	11 more.	157	− 5	28·9 *	−5·3	12	17	1376	− 97	36	− 3
	9. IRELAND, NORTH	6	12	4 more.	188	+ 4	31·9	+3·2	11	16	1009	−133	26	− 4
	10. IRELAND, SOUTH	7	21	12 more.	168	− 3	30·3	−1·3	14	20	1255	− 56	33	− 1
	— CHANNEL ISLANDS	7	22	13 more.	162	−13	23·0	+2·7	12	16	1585	−159	42	− 4

General Remarks.

Weather has remained in an exceedingly unsettled state, with heavy falls of rain in many parts of the Kingdom. Fog has prevailed over England at times, and thunder and lightning were observed in many places during the latter part of the week.

Temperature has varied greatly in different localities; in the "Midland Counties," the west of England, the south of Ireland, and the "Channel Islands" the average for the week has been below the mean, and in "England, E." and "England, S." it has been about equal to the normal, but in all other districts a slight excess is shown. The highest readings were observed, as a rule, between the 15th and 17th, when the thermometer rose to between 55° and 60° in most districts, and to 62° in "England, E." and "England, S." The lowest readings were observed during the early part of the time over England, but towards the close of the period over Ireland, the minima ranging from 30° in the "Midland Counties" and 31° in "Scotland, N." and "Scotland, E." to 39° in "Scotland, W." and 43° in the "Channel Islands."

Rainfall has been more than the mean in all districts, excepting the north and west of Scotland. Over the southern parts of Ireland and England the excess has been considerable.

Bright sunshine has been, as a rule, very deficient, the percentages of the possible amount ranging from only 6 in "Scotland, E." and "England, N.W.", and 7 in "England, N.E.", to 24 in "England, E." and 30 in "Scotland, N."

Barometer and Wind.—During this period barometric pressure has been highest to the north-eastward, but somewhat high to the southward of our Islands. Numerous small cyclonic systems have advanced from the southward or south-westward to our more southern districts, the two most important being observed respectively on the nights of the 18th and 19th, when strong gales from the Southward or South-Westward were experienced over the Channel and the south of England. The gradual reduction of pressure which took place over our southern districts as these depressions advanced resulted in the formation of rather steep gradients over the northern and eastern parts of the Kingdom, and the wind in those localities therefore increased considerably from South-East and East. A severe gale was experienced at Wick on the night of the 19th.

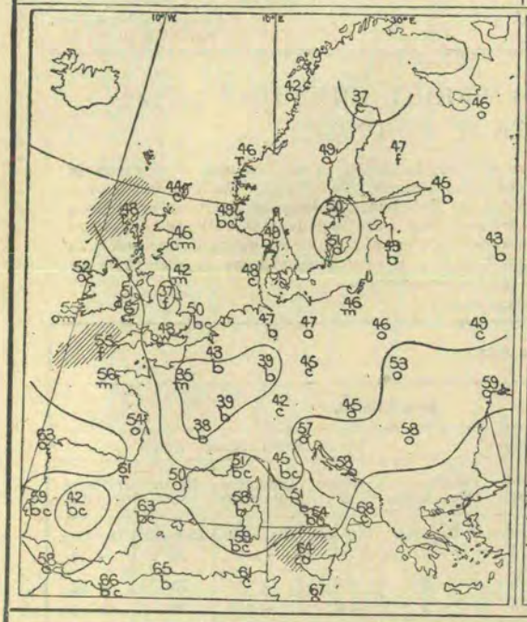
* This value has been altered owing to the receipt of further information.

60347. 350.—10/89. Wt. 36. E. & S.

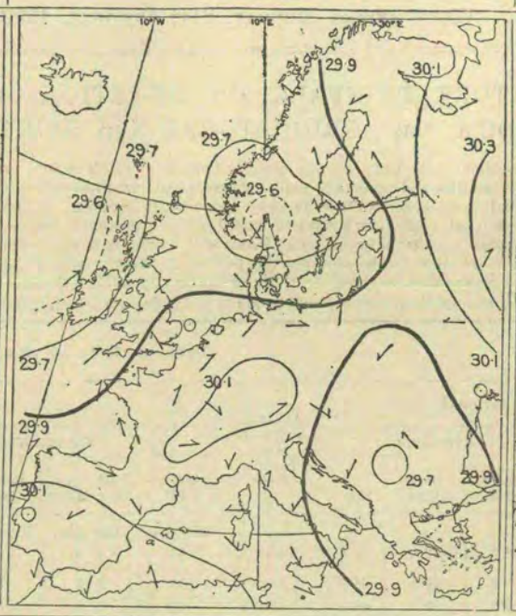
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 15th October.

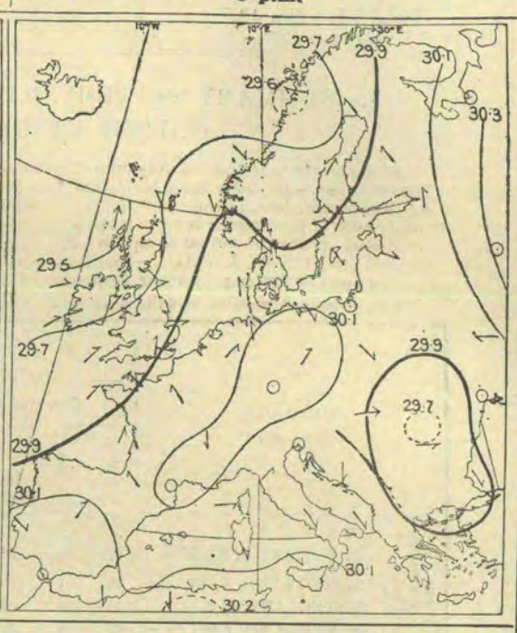
Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



6 p.m.



Weather dull and unsettled on the west coasts of our Islands and France, as well as in Scandinavia, Germany, and Austria, with rain in places. Fine in most other localities, but foggy over the north of England as well as at the mouth of the Channel. Rain falling during day in most parts of western and central Europe,—heavily at Christiansund, Barrow-in-Furness, and Cracow.

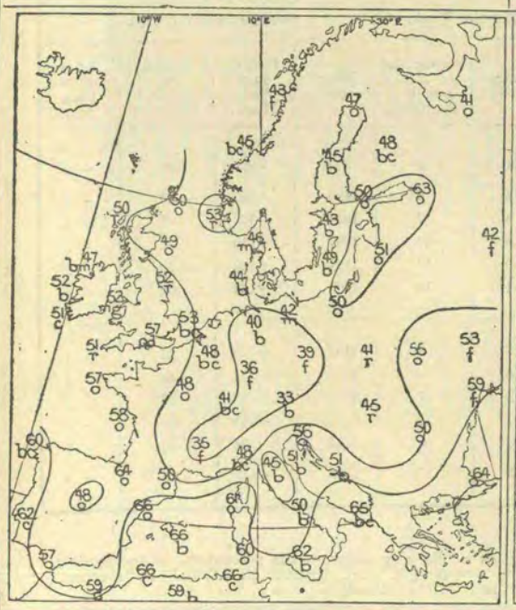
Temperature highest, 60° and upwards, at several of the Spanish and Mediterranean stations; lowest, 40° or less, over western Germany and the central parts of England and France as well as in the extreme north of Sweden. Daily maxima reaching 60° or a little above at some of our own southern stations, and also in many parts of France. Thermometer rising above 70° over Algeria and the southern parts of Spain and Italy, the highest reading of all being 95° at Biskra.

Wind moderate from the Southward (South-East to South-West) over the United Kingdom and the west and north of France, as well as in Sweden and Finland, but Westerly in Denmark and Germany and Easterly in the north-west of Norway. Light or moderate from the North-Westward over the south of Italy and the adjacent portions of the Mediterranean; variable in other parts of southern Europe. Subsequently shifting to the Westward on the Norwegian coasts.

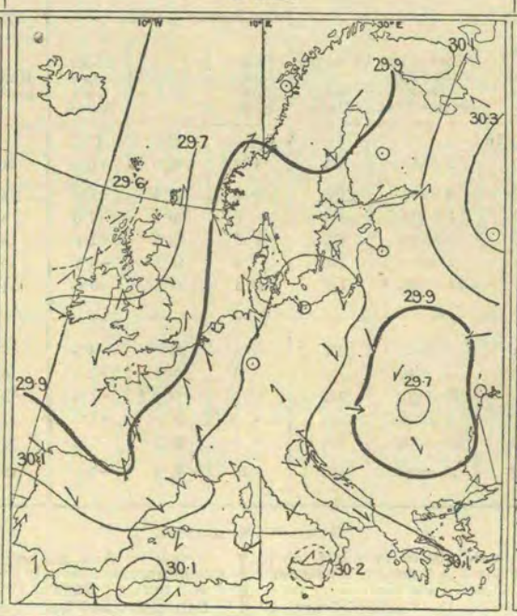
Barometer highest, 30·3 ins. and upwards, in a large anticyclone lying over Russia; high, 30·1 ins. and upwards, in two other systems lying respectively over south Germany and over Spain, Algeria, and the western parts of the Mediterranean. Lowest, 29·6 ins. and less, in two depressions lying respectively over the south of Scandinavia and to the westward of the British Islands; low, 29·7 ins. and less, in another disturbance lying over southern Austria. All three depressions subsequently moving northwards, the passage of the Scandinavian system being somewhat rapid.

Wednesday, 16th October.

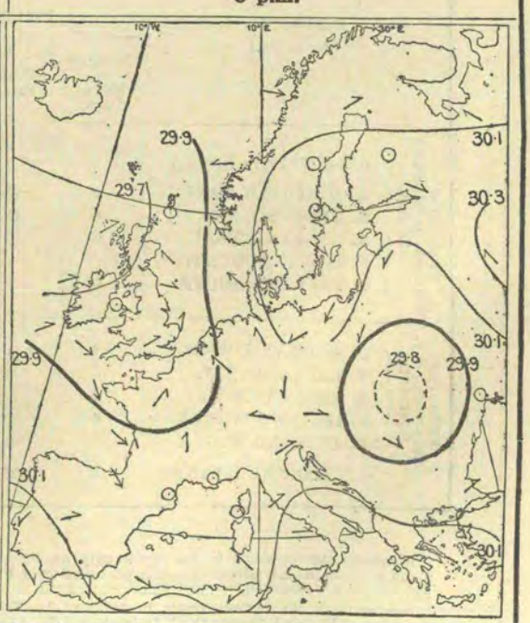
Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



6 p.m.



Weather dull and unsettled over Great Britain and France, as well as over eastern Europe, with rain in many parts of England and also at some of the Austrian stations. Mostly fine elsewhere, but foggy over Germany, central France, and the south of Russia. Heavy rain falling later in the south and east of England and the north of France, the largest amount being 1·1 inches at Cambridge. Lightning seen at Prawle Point at night.

Temperature highest, 65° or a little above, at some of the Mediterranean stations; high, 55° and upwards, over France and the south-east of England. Lowest, 40° or less over some of the central parts of Germany and France; low, 45° or less, over central and northern Russia. Thermometer rising during day to a little above 60° over France and the south-east of England, and to above 70° over Algeria and the south of Spain, the highest reading of all being 81° at Algiers.

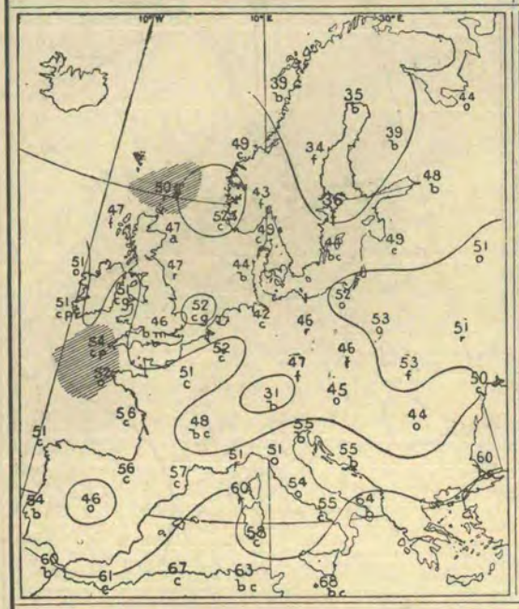
Wind light from the Westward in the south of England and the north of Spain, and from the North-Westward in the South-West of England, but Southerly or South-Easterly over the Netherlands, the North Sea, and the eastern parts of Great Britain. Light from the Eastward or North-Eastward at the Mediterranean stations; cyclonic circulation shown over Austria and eastern Germany. Subsequently veering to the Westward in the south-east of England, and to the North-Westward in the west of France.

Barometer highest, 30·3 ins. and upwards, in an anticyclone lying over Central Russia; high, 30·1 ins. to 30·2 ins., in a broad band extending from the Mediterranean, across Italy and Central Europe to the Baltic. Lowest, 29·6 ins. and less, in an area lying to the north-westward of the British Islands; 29·7 ins. and less, in a well marked depression lying over eastern Austria. Small shallow disturbances moving northwards across the Bay of Biscay and the English Channel during day; barometer rising in west of France later.

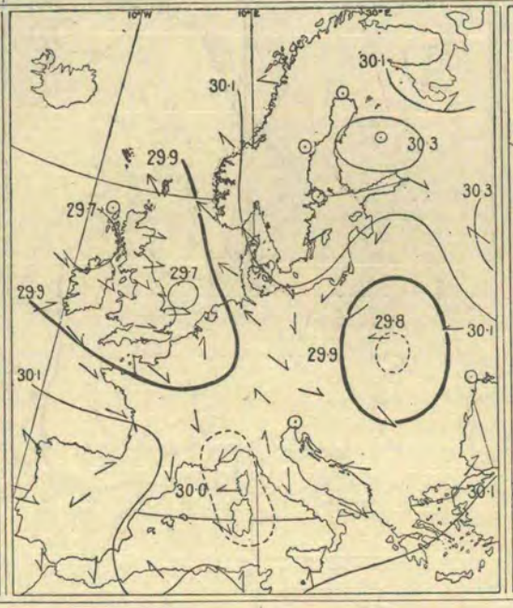
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 17th October.

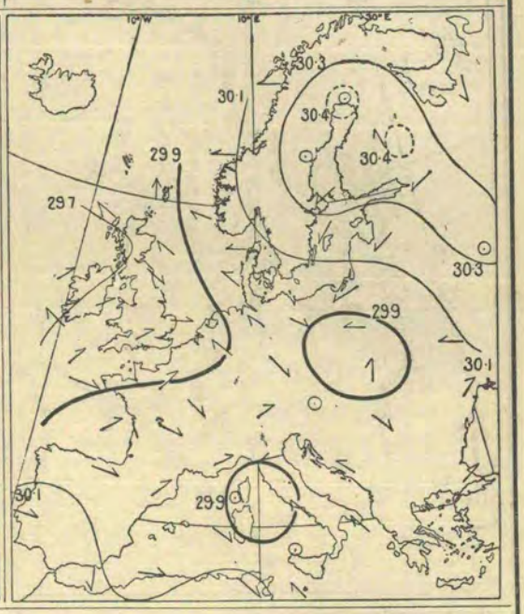
Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



Barometer and Wind. **6 p.m.**



Weather fine in the south of England, as well as in Norway, Denmark, the northern parts of Scandinavia and Russia, and the greater part of southern Europe. Foggy at several of the Swedish, German, and Austrian stations; showery in the west of our Islands, and rainy in the north and north-east of England, the extreme south of France, and some parts of Germany and Austria. Heavy rain falling at some of our western stations at night, the largest amount being 1·0 inch at Valencia.

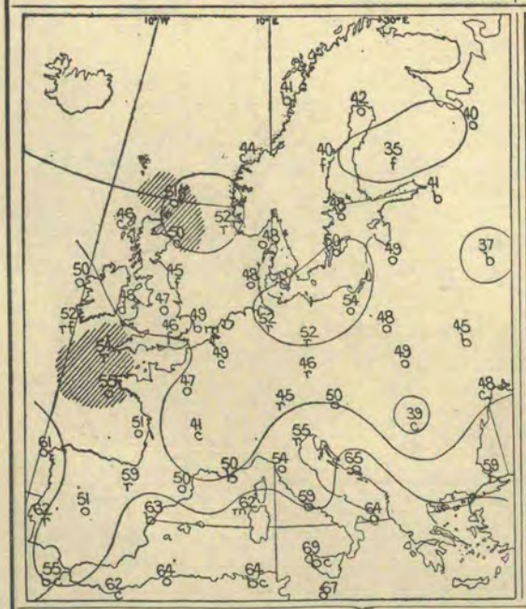
Temperature highest, 65° and upwards, over some of the central and southern parts of the Mediterranean; lowest, 40° or less, over Sweden, Finland, and South Germany. Daily maxima below 60° in nearly all parts of western Europe, and below 55° at several of our own northern and eastern stations, but thermometer rising to 70° and upwards over Algeria and the south of Italy, the highest reading of all being 81° at Biskra.

Wind light or moderate from the Westward, North-Westward over the greater part of our Islands and France, but South-Easterly or Easterly on the eastern shores of the North Sea. Light and variable in the north of Russia; calm in Sweden; North-Easterly over the Baltic. Cyclonic circulations of light breezes reported over southern and eastern Europe. Subsequently backing to the South-Westward over the Channel and Bay of Biscay, and to the South-Eastward in the south of Ireland.

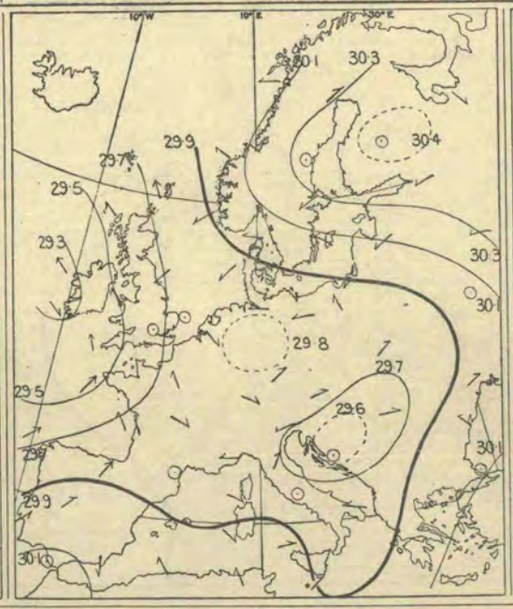
Barometer highest, 30·4 ins. and upwards, over Central Finland; 30·2 ins. and upwards, over the whole of central Russia, Finland, and Sweden, as well as over the south of Portugal. Lowest, 29·7 ins. and less, in a depression lying off the extreme north-west of our Islands, and also in a smaller system lying off the east of England; 29·8 ins. and less, in a third disturbance lying over eastern Austria; 30·0 ins. and less in a large but very shallow system lying over Sardinia, Corsica, and the Gulf of Genoa. New depression approaching the south of Ireland at night.

Friday, 18th October.

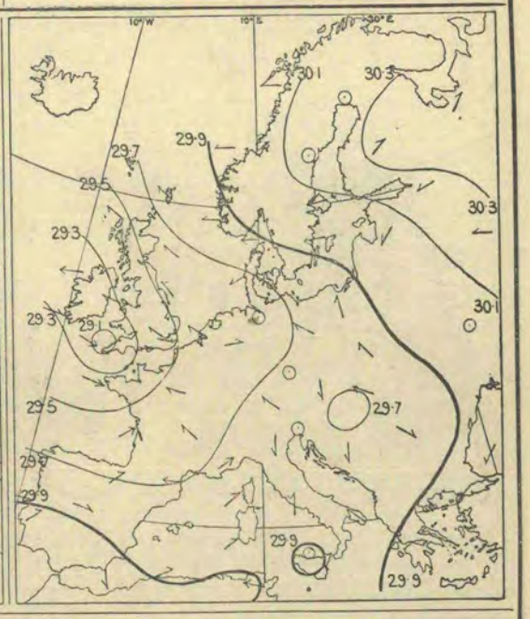
Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



Barometer and Wind. **6 p.m.**



Weather fine in Russia, as well as in the eastern parts of Great Britain and the extreme south of France. Cloudy or overcast elsewhere, with rain in the west and south-west of our Islands, and also at the German stations. Fog reported over western Germany, some parts of England, as well as at Hernösand and Kuopio. Heavy rain falling during day in the west and extreme south of the United Kingdom, as well as in the north of France.

Temperature highest, 60° and upwards, at some of the Spanish and Mediterranean stations; lowest, 40° or less, over northern and central Russia and the south of Austria. Daily maxima below 55° in most parts of north-western, northern, and central Europe, but thermometer rising above 70° in Algeria and the extreme south of Italy, as well as at one or two of the Spanish stations. Highest readings of all, 81° at Biskra and 79° at Algiers.

Wind South-Easterly over our Islands and the west of France, strong in force at some of our south-western stations. Light or moderate from the Eastward over the greater part of northern Europe, but variable in the more eastern countries. Southerly in Algeria and South-Westerly in Spain. Subsequently increasing to a gale over the southern parts of the United Kingdom, from the North-Westward on our south-west coasts, but from the Westward in the Channel.

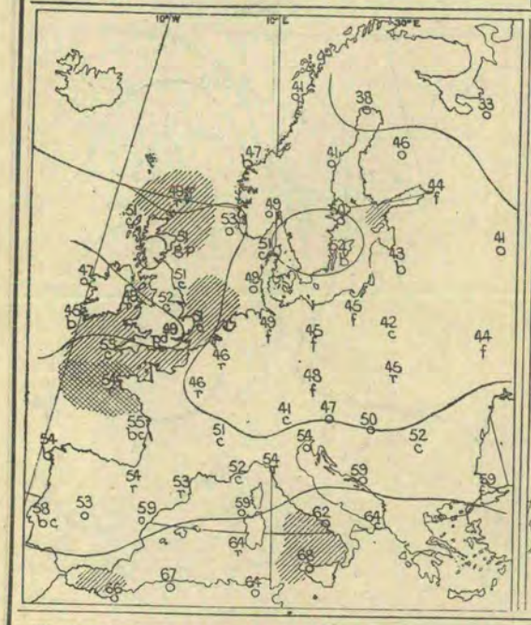
Barometer highest, 30·4 ins. and upwards, in an anticyclone, the central portion of which lay over Finland; high, 30·1 ins. and upwards, over central Algeria and the extreme south of Spain. Lowest, 29·3 ins. and less, in a depression lying off the west of Ireland; 29·6 ins. and less, in another lying over Bosnia and Servia, and 29·8 ins. and less, in two shallow disturbances lying respectively over north Germany and the Gulf of Genoa. Well-marked and rather deep depression (subsidiary to the system off the west of Ireland) subsequently moving eastwards across the extreme south of England.

II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 19th October.

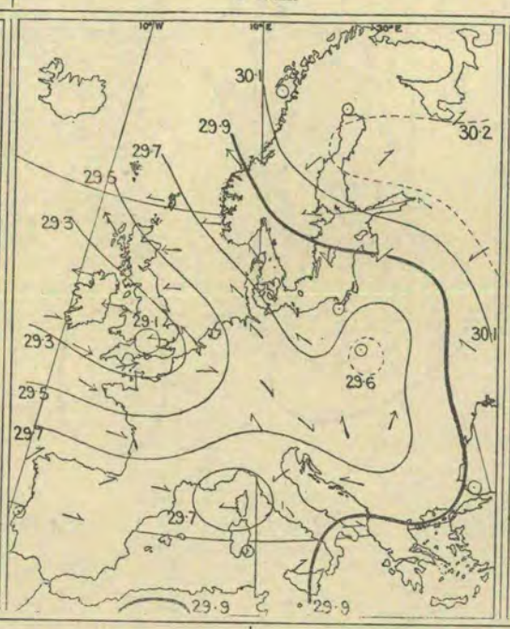
Temperature and Weather.

8 a.m.

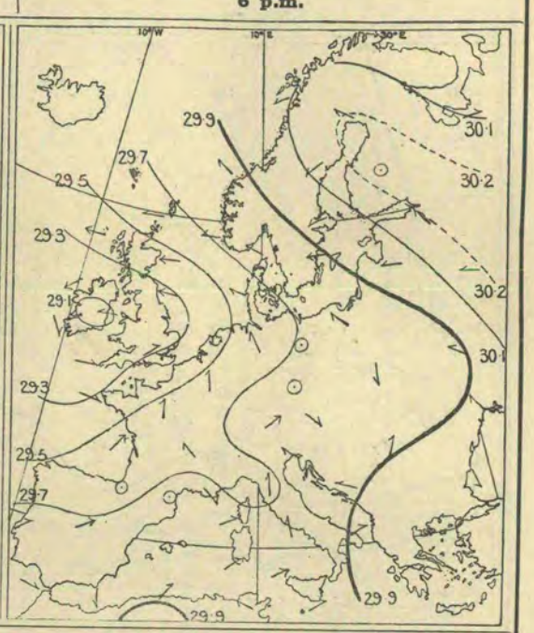


Barometer and Wind.

8 a.m.



6 p.m.



Weather cloudy or overcast in nearly all parts of Europe, with fog at several of the German and Russian stations, and rain in many parts of the United Kingdom, as well as in the extreme south of France and the north of Italy. Heavy rain falling at night in the south of England and the west and north of France, the largest amount being 1·2 inches at Nantes.

Temperature highest, 60° and upwards, over the central and southern parts of the Mediterranean; lowest, 40° or less, over the northern parts of Sweden and Russia and some parts of western Germany. Daily maxima below 55° at many of our own stations, but thermometer rising above 70° in the south of Italy, and above 80° in central Algeria, the highest readings of all being 81° at Laghouat and 79° at Biskra and Palermo.

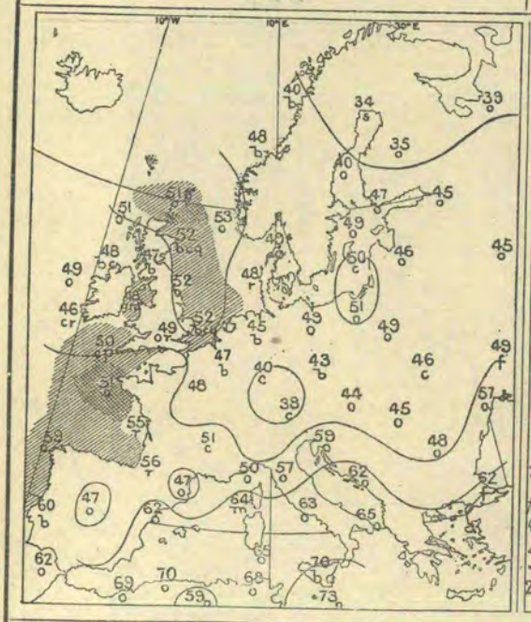
Wind strong from the Eastward or South-Eastward over the northern and eastern parts of our Islands, and light or moderate from the same quarters over nearly the whole of central and northern Europe. Westerly over Spain, France, and the south of our Islands, with a gale in the English Channel; variable over Algeria, Italy, and eastern Europe. Subsequently backing to the Southward over France and the south of England. Increasing at night to a whole gale from the Eastward at Wick.

Barometer highest, 30·2 ins. and upwards, in a large anticyclone lying over northern and central Russia; lowest, 29·1 ins. and less, in a small depression lying over the south of England; low, 29·2 ins. and less, in a trough extending across the greater part of Ireland and England. Two other disturbances lying respectively over Poland and the Gulf of Genoa. Low-pressure system over our Islands subsequently extending northwards; new disturbance advancing northwards from the Bay of Biscay.

Sunday, 20th October.

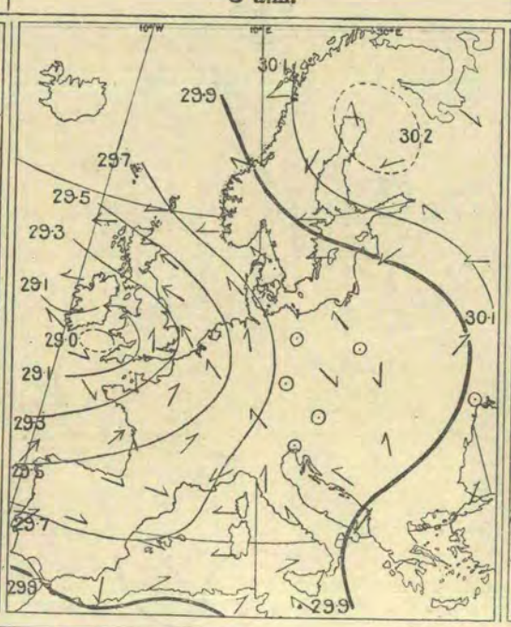
Temperature and Weather.

8 a.m.

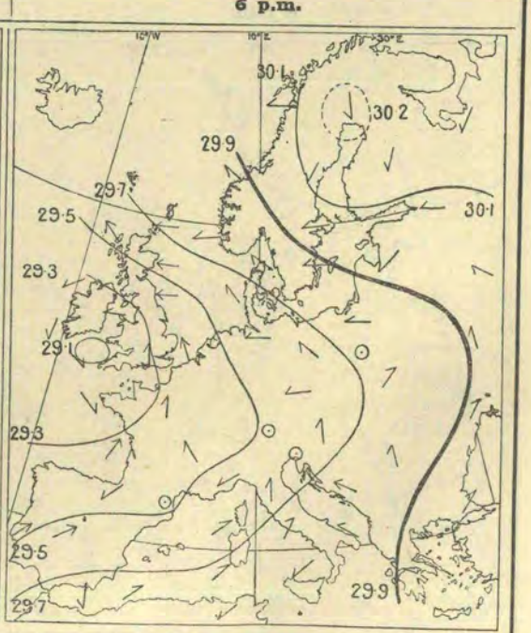


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine in the north of Ireland and the south of Scotland as well as over Germany, the Netherlands, and the west of Norway. Cloudy or overcast elsewhere, with passing showers in the south-west of our Islands, heavy rain in France and the south-east of England, and snow at Haparanda. Largest amounts of rain measured during day, 2·0 ins. at Rochefort, 1·6 ins. at Biarritz, and 1·0 in. at Nice.

Temperature highest, 65° to 70°, at several of the Mediterranean stations; lowest, 40° or less, over the northern parts of Scandinavia and Russia, and the west and south of Germany. Maxima below 55° in many parts of our Islands as well as over northern and central Europe, but thermometer rising above 70° in southern Italy and above 80° in central Algeria, the highest readings of all being 84° at Biskra and 82° at Laghouat.

Wind fresh or strong from the South-Westward over France and the west and north of the Iberian Peninsula, and strong to a gale from the Southward in the extreme South-East of England. Easterly over all the more northern parts of Europe, with a gale in the north of Scotland; light and variable over central and eastern Europe and the greater part of the Mediterranean. South-Westerly breezes setting in later at several of the Mediteranean and Algerian stations, and South-Easterly breezes over the Adriatic.

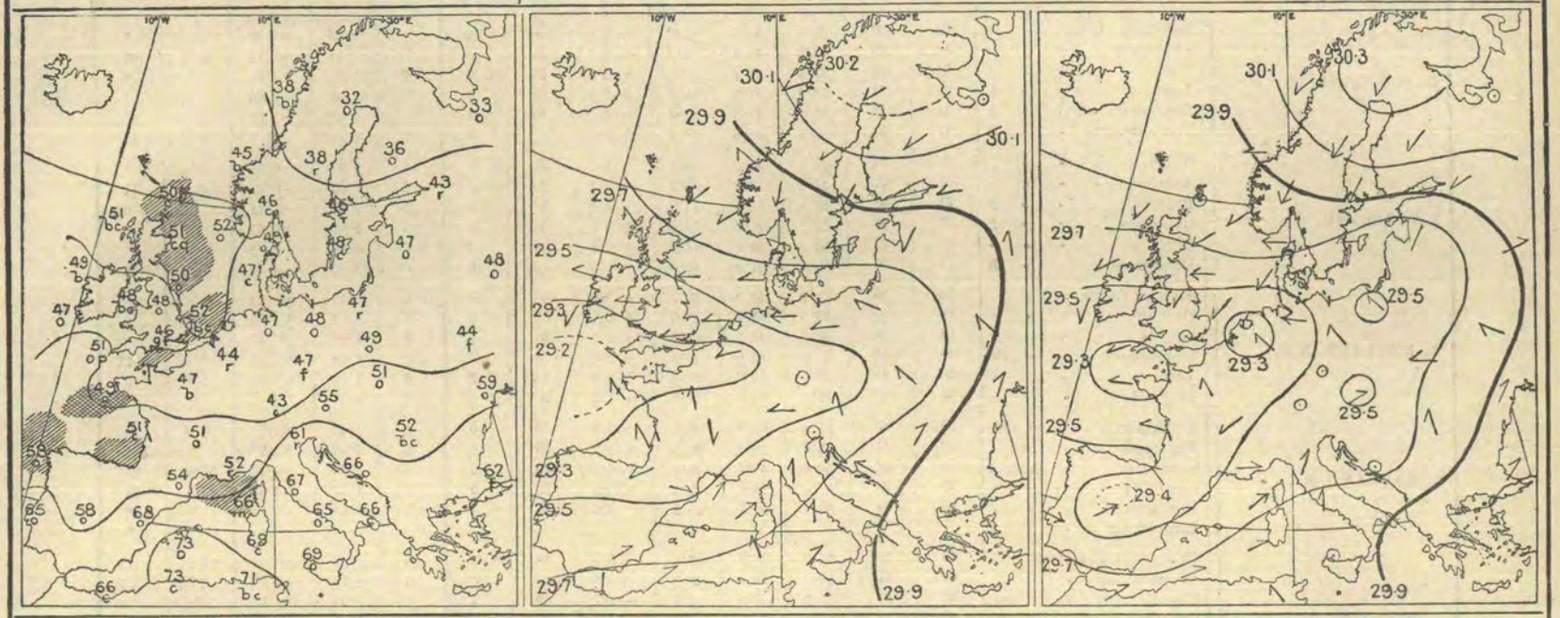
Barometer highest, 30·2 ins. and upwards, in an anticyclone lying over Lapland and Finland; somewhat high, 29·9 ins. and upwards, over Morocco and the central parts of Algeria. Lowest, 29·1 ins. and less, in a depression lying over Wales, the south of Ireland, and the south-west of England. Rise taking place later in most parts of north-western Europe, and depression over our south-west coasts partially filling up.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 21st October.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather very cloudy in most parts of Europe, with fog and rain in many places. Fine in the west of Norway and some isolated parts of the United Kingdom; fair at the Algerian and some of the Mediterranean stations. Heavy rain falling during day in the south-west of our Islands and some parts of France, the largest amounts being 4·6 inches at Nice, 2·1 inches at Prawle Point, 1·9 inches at Besançon, and 1·1 inches at Roches Point. Thunder and lightning in some parts of England, Ireland, and France at night.

Temperature highest, 65° and upwards, over Algeria, the Adriatic, and the Mediterranean; lowest, 40° or less, over the northern parts of Scandinavia and Russia. Daily maxima ranging between 55° and 60° over the central and southern parts of England, but below 55° in the north and west. Thermometer rising above 70° in Italy and above 80° in Algeria, the highest readings of all being 90° at Biskra and 86° at Algiers.

Wind Easterly or North-Easterly over the whole of northern and north-western Europe; strong in force over the north-eastern and north-western parts of our Islands. South-Easterly in Italy and the west of France; Southerly or South-Westerly over the greater part of Spain and Algeria. Subsequently increasing to a strong breeze from the Eastward over Denmark and the Baltic, but veering to the Westward over the Iberian Peninsula.

Barometer highest, 30·2 ins. and upwards, over Lapland; somewhat high, 29·8 ins. and upwards, in Algeria. Lowest, 29·2 ins. and less, in a large but rather shallow depression lying to the south-westward of our Islands; ill-defined secondary disturbances lying over Germany and the Netherlands. Numerous small but very shallow depressions appearing later over various parts of central and southern Europe, and distribution of pressure over those regions becoming very irregular.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟩⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

In the course of this week pressure has increased decidedly over northern while it has decreased over western and southern Europe; the low-pressure area which lay off our western coasts at the beginning of the week has moved southwards to our south-western stations and has spread eastwards in the form of a "hollów," over our southern counties, the Channel, and north of France to the Netherlands. Easterly winds have consequently become prevalent over the British Islands, the North Sea, and northern Europe, and have blown hard in some localities, while the prevalent winds in the Channel and France have been south-westerly to westerly. The weather has been very rainy and unsettled, thunderstorms have occurred on several occasions and in many regions, and fogs have been observed from time to time.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
October 14th	Llandovery	61	28	57·9	32·0	44·6	− 7·2	60	28	6	0·66	−0·60	*	*

III.—DATA from which the SUMMARY on page 247 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches	Inches.		
0. SCOTLAND, N.	Sumburgh Head	53	37	51·9	44·7	48·2	+ 2·0	43	0	6	0·82	−0·16	*	*
	Stornoway	55	35	53·0	42·1	47·4	+ 1·7	38	0	3	0·34	−0·78	35·2	51
	Wick	54	40	52·3	47·1	49·6	+ 4·8	53	0	7	1·02	+0·37	*	*
	Lairg	53	31	50·9	41·0	45·8	+ 0·9	31	3	6	0·95	0·00	*	*
	Glencarron	57	36	53·2	41·5	47·2	+ 2·1	39	1	4	0·60†	−1·32	17·3	25
	Fort Augustus	57	34	53·8	41·6	47·5	+ 0·7	40	1	3	0·14†	?	9·2	13
1. SCOTLAND, E.	Nairn	55	31	53·3	37·7	45·3	− 1·2	41	12	4	0·36	−0·17	*	*
	Aberdeen	54	37	52·6	46·0	49·2	+ 3·1	50	0	6	0·99	+0·34	7·4	11
	Braemar	51	31	49·2	38·9	43·9	+ 0·9	26	9	5	2·01	+1·11	0 ‡	0‡
	Ochtertyre	55	33	51·7	40·6	46·0	+ 0·1	34	4	4	1·36	+0·35	*	*
	Leith	55	37	52·6	42·6	47·5	+ 0·7	39	0	5	0·76	+0·32	*	*
	Marchmont	51	37	50·4	41·0	45·6	+ 1·3	29	3	6	1·20	+0·44	5·5	8
2. ENGLAND, N.E.	Alnwick Castle	55	38	51·7	44·0	47·7	+ 0·9	40	0	6	1·16	+0·54	*	*
	Durham	56	37	52·9	41·4	47·0	+ 0·1	38	2	6	0·81	+0·13	3·1	4
	Shields	54	39	52·6	42·4	47·4	− 0·2	38	0	6	1·05	+0·49	*	*
	Scarborough	58	40	53·6	44·9	49·1	+ 1·5	50	0	6	1·58	+0·87	4·9‡	7‡
	York	56	35	55·1	41·0	47·8	− 0·8	45	3	6	1·22	+0·59	6·7	9
	Spurn Head	55	43	53·4	46·6	49·6	+ 1·2	53	0	5	1·01	?	*	*
3. ENGLAND, E.	Hillington	59	35	55·1	43·5	49·1	+ 0·3	50	0	5	1·41	+0·79	21·7	30
	Yarmouth	56	41	53·9	46·3	50·0	+ 0·1	56	0	6	0·97	+0·29	*	*
	Geldeston	60	32	56·3	43·7	49·8	− 0·3	55	0	5	1·09	+0·47	13·9	19
	Cambridge	62	36	57·4	42·3	49·6	− 0·2	53	0	5	1·37	+0·82	17·1	24
	Rothamsted	59	34	55·1	41·7	48·2	− 0·6	45	1	7	1·49	+0·79	*	*
	Ingatestone												*	*
4. MIDLAND	Bawtry (Hesley Hall)	58	30	55·9	40·3	47·9	− 0·9	48	5	6	0·62	−0·05	5·0‡	7‡
	Loughborough	60	31	56·0	40·0	47·8	− 0·5	49	6	5	0·74	+0·06	9·2‡	13‡
	Cheadle	55	37	51·5	40·6	45·9	− 1·7	33	4	7	1·04	+0·19	*	*
	Churchstoke	57	34	52·7	38·9	45·6	− 2·7	38	9	7	1·25	+0·43	7·1	10
	Hereford	60	32	54·4	41·5	47·8	− 1·0	43	1	7	1·10	+0·43	*	*
	Cirencester	57	33	54·4	43·0	48·5	− 0·3	46	0	7	0·66	−0·05	13·9	19
	Oxford	59	32	56·3	42·1	49·0	− 0·6	49	0	7	0·77	+0·16	15·0	21
5. ENGLAND, S.	London	61	37	56·9	43·4	50·0	− 0·5	56	0	6	1·61	+1·00	9·6‡	13‡
	Strathfield Turgiss	59	32	56·8	43·2	49·8	− 0·5	55	0	6	1·25	+0·63	*	*
	Dungeness	59	37	57·3	47·9	52·5	+ 1·6	74	0	6	1·79	+1·07	*	*
	Hastings (St. Leonard's)	59	45	57·3	48·6	52·8	+ 1·9	76	0	6	1·54	+0·74	15·8	22
	Southampton	62	41	57·7	45·6	51·5	+ 0·7	67	0	6	1·56	+0·81	14·0	19
	Hurst Castle	58	41	56·3	48·4	52·2	+ 0·9	71	0	6	2·45	+1·71	*	*
	Stowell	57	38	54·2	43·4	48·6	− 1·2	46	0	6	1·94	?	2·4‡	3‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	60	40	55·3	43·3	49·1	+ 1·2	50	0	2	0·34†	−1·43	*	*
	Glasgow	54	39	52·2	44·2	48·1	+ 1·9	43	0	4	0·57	−0·37	8·4	12
	Ardrossan	58	41	54·7	43·3	48·8	+ 1·2	48	0	3	0·20	−0·76	*	*
	Glenlee	53	39	52·1	40·6	46·2	− 1·1	35	4	6	1·03	−0·30	*	*
	Douglas (Isle of Man)	57	39	54·7	44·6	49·5	+ 0·4	53	0	7	0·80	−0·19	4·4	6
7. ENGLAND, N.W.	Newton Reigny (Penrith)	53	35	52·0	40·6	46·1	− 0·5	35	4	5	0·96	+0·16	4·6	6
	Barrow-in-Furness	53	40	52·0	44·1	47·9	− 1·5	41	0	6	1·41	+0·48	*	*
	Stonyhurst	53	39	52·3	42·9	47·5	− 0·3	39	0	5	0·76	−0·49	3·6	5
	Blackpool	55	38	53·3	41·5	47·2	− 2·7	39	1	6	0·98	+0·01	5·8	8
	Manchester	54	39	52·6	43·8	47·8	− 0·8	41	0	6	0·93	−0·04	*	*
	Liverpool Obsr (Bidston)	55	39	52·9	43·1	47·9	− 2·0	41	0	6	1·03	+0·22	*	*
	Llandudno													
	Holyhead	56	44	54·3	46·7	50·4	− 0·7	59	0	7	1·31	+0·29	*	*
8. ENGLAND, S.W.	Llandovery	57	37	54·4	43·1	48·6	− 1·5	46	0	7	1·29	+0·04	*	*
	Pembroke	56	45	54·1	48·0	51·0	− 1·2	63	0	7	1·94	+1·02	12·7	18
	Arlington (N. Devon)	57	38	52·7	42·3	47·4	− 2·6	38	0	7	2·21	+0·89	*	*
	Cullompton	57	36	55·3	41·7	48·3	− 2·0	45	1	7	2·03	+1·13	6·9	9
	Falmouth	58	42	54·7	46·6	50·5	− 1·9	60	0	7	2·53	+1·28	16·0	22
	Plymouth	58	39	55·3	45·0	50·0	− 1·9	56	0	7	2·13	+1·28	12·8	18
	Prawle Point	58	42	56·1	46·7	51·3	− 0·6	65	0	7	3·23	?	*	*
9. IRELAND, N.	Malin Head	55	44	53·0	45·6	49·2	+ 1·4	50	0	4	0·18	?	*	*
	Londonderry	57	42	53·4	44·5	48·8	+ 1·1	48	0	7	0·59	−0·40	*	*
	Mullaghmore	58	45	54·1	46·6	50·2	+ 2·4	57	0	6	1·33	+0·41	*	*
	Belmullet	55	45	53·7	47·3	50·4	+ 0·3	59	0	5	1·84	?	*	*
	Markree Castle	58	42	54·3	44·0	49·0	+ 1·5	49	0	5	2·27	+1·38	15·4	22
	Brookeborough	56	39	52·2	43·2	47·6	+ 0·8	39	0	6	1·69	?	*	*
	Armagh	57	39	53·0	44·5	48·6	+ 1·1	46	0	5	0·93	+0·23	6·5	9
	Donaghadee	56	37	53·6	45·3	49·2	− 0·6	50	0	5	0·45	−0·30	*	*
	Edgeworthstown	56	39	53·0	42·9	47·8	+ 0·9	41	0	7	1·82	+1·12	*	*
10. IRELAND, S.	Dublin	57	41	51·2	46·1	50·0	+ 1·0	56	0	7	2·35	+1·65	10·1	14
	Parsonstown	58	37	53·9	41·0	47·3	− 0·6	41	3	7	1·34	+0·62	11·2	17
	Kilkenny	59	34	53·3	42·1	47·5	− 0·8	39	0	7	2·65	+1·95	*	*
	Waterford	60	35	54·4	42·6	48·3	− 2·4	44	0	7	2·93	+1·99	*	*
	Roche's Point	57	41	54·6	45·6	50·0	− 1·1	56	0	6	2·50	+1·56	*	*
	Valencia	58	41	56·0	45·7	50·7	− 1·2	61	0	7	2·03	+0·54	21·5	30
	Killarney	58	38	55·0	41·4	48·0	− 2·3	45	2	7	1·93	?	*	*
	Foynes	57	40	53·7	45·5	49·5	+ 0·6	53	0	6	1·19	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	60	46	56·6	48·9	52·6	− 1·8	74	0	7	1·37	+0·49	*	*
	Jersey	59	43	56·9	49·0	52·8	− 1·1	76	0	7	3·03	+2·04	11·9	16

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked S with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

(OFFICIAL COPY.)

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VI. No. 43.] *Third Series.* WEEK ENDING MONDAY, 28TH OCTOBER, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number, TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

DISTRICTS. (See p. 258.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
	°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	54	22	48·3	35·4	41·7	3 below.	18	− 8	6	+14	1955	+154	561	+ 21
1. SCOTLAND, EAST	54	26	47·2	37·2	42·1	3 below.	21	− 9	13	0	2256	− 39	589	+ 14
2. ENGLAND, N.E.	53	35	48·7	43·0	45·9	0 (average).	27	− 5	0	− 9	2429	− 38	496	− 4
3. ENGLAND, EAST	56	35	51·7	42·0	46·7	1 below.	33	− 3	0	− 9	2781	− 54	637	+113
4. MIDLAND COUNTIES	54	36	49·5	41·2	45·2	2 below.	26	− 9	2	− 9	2740	− 58	596	+ 66
5. ENGLAND, SOUTH	58	34	53·2	42·5	47·9	1 below.	41	− 2	0	− 6	3065	− 5	452	+ 68
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	58	26	49·5	39·5	44·4	1 below.	27	− 7	7	− 3	2421	+ 5	394	− 24
7. ENGLAND, N.W.	55	26	49·3	41·1	45·1	2 below.	25	−11	3	− 4	2575	− 2	388	− 6
8. ENGLAND, S.W.	58	34	51·9	42·3	46·9	3 below.	34	−16	0	− 3	2819	−124	327	+ 89
9. IRELAND NORTH	55	25	50·7	38·4	44·3	2 below.	32	− 4	10	+ 2	2524	+ 23	315	− 51
10. IRELAND, SOUTH	55	27	50·5	38·5	44·3	4 below.	31	−14	10	+ 4	2798	− 35	245	− 4
— CHANNEL ISLANDS	63	45	55·0	48·0	51·4	1 below.	63	+ 1	0	0	3286	+ 63	77	− 16

Rainfall. Bright Sunshine.

DISTRICTS. (See p. 258.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
		10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	4	2	7 less.	199	+15	33·2	−0·5	25	38	919	−227	23	− 6
1. SCOTLAND, EAST	6	5	2 less.	167	+ 9	22·9	−3·7	6	10	1134	−164	29	− 4
2. ENGLAND, N.E.	6	13	6 more.	155	+ 2	21·7	−1·0	2	3	1056	−132	27	− 3
3. ENGLAND, EAST	6	10	4 more.	159	+ 3	23·3	+1·9	7	10	1214	−224	31	− 6
4. MIDLAND COUNTIES	5	9	2 more.	149	− 4	24·2	−0·3	10	14	1131	−158	29	− 4
5. ENGLAND, SOUTH	4	10	2 more.	149	+ 3	22·5	−0·3	10	14	1212	−170	31	− 5
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	2	1	9 less.	169	− 1	33·0	−5·2	18	27	1210	− 39	31	− 1
7. ENGLAND, N.W.	4	3	7 less.	159	+ 1	26·9	−2·0	11	16	1166	− 81	30	− 2
8. ENGLAND, S.W.	4	6	5 less.	161	− 5	29·4	−5·9	10	15	1386	−105	36	− 3
9. IRELAND, NORTH	2	3	6 less.	190	+ 2	32·2	+2·6	30	44	1039	−123	27	− 3
10. IRELAND, SOUTH	2	2	7 less.	170	− 5	30·5	−2·0	23	34	1278	− 52	33	− 1
— CHANNEL ISLANDS	6	10	1 more.	168	−12	24·0	−2·6 *	17	24	1602	−162	42	− 4

General Remarks.

Weather has been dull, unsettled, and rainy, with a good deal of mist or fog in most parts of Great Britain, but in Ireland and the west of Scotland the conditions have been generally fine and dry. Thunder and lightning occurred at some of the English stations on the 23rd and 24th.

Temperature has equalled the mean in "England, N.E.", but in all other parts of the Kingdom it has been below; in "Scotland, N." and "England, S.W." a deficit of 3° is shown, and in "Ireland, S." 4°. The highest of the maxima, which were registered in most instances either on the 22nd or 28th, varied from 53° in "England, N.E." to 58° in "England, S.", "Scotland, W.", and "England, S.W.", and to 65° in the "Channel Islands". The lowest of the minima were recorded on the 25th when they varied from 22° to 26° in Scotland, from 25° to 27° in Ireland, and from 26° to 36° over England. In the "Channel Islands" the lowest reading was 45°.

Rainfall has been considerably less than the mean in Scotland, Ireland, and the western parts of England, but over southern, central, and eastern England there has been an excess.

Bright sunshine shows a decided increase in Scotland and Ireland, but over England it has continued very deficient. The percentage of the possible amount of duration ranged from 34 to 44 in Ireland and from 27 to 38 in most parts of Scotland, but over England and the east of Scotland it has been as low as from 3 to 16.

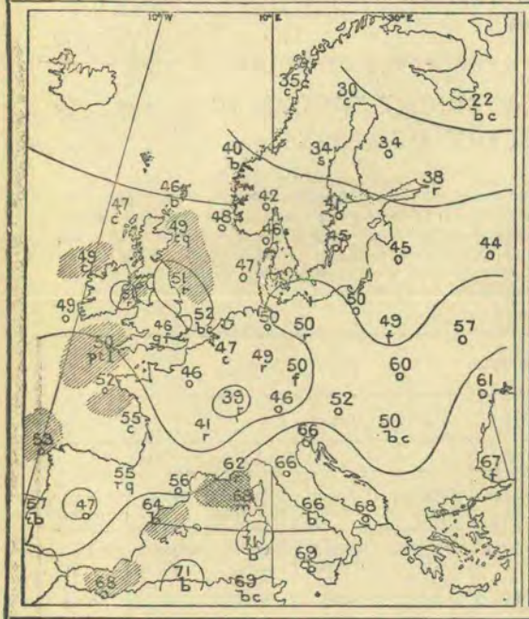
Barometer and Wind.—During the whole of this period the barometer has been highest over the northern parts of the Kingdom and lowest in the south. In the latter region some depressions appeared from the southward and caused the wind to increase considerably at times from the North-Eastward or Eastward. Late on the 26th and during the morning of the 27th a fresh to strong Easterly to North-Easterly gale was experienced in the south and south-east. At the close of the week pressure was increasing steadily in the south and falling in the north and the winds on our northern coasts were shifting to the South-Westward.

* The corresponding value in last week's Report should read "−2·7" instead of "+2·7."

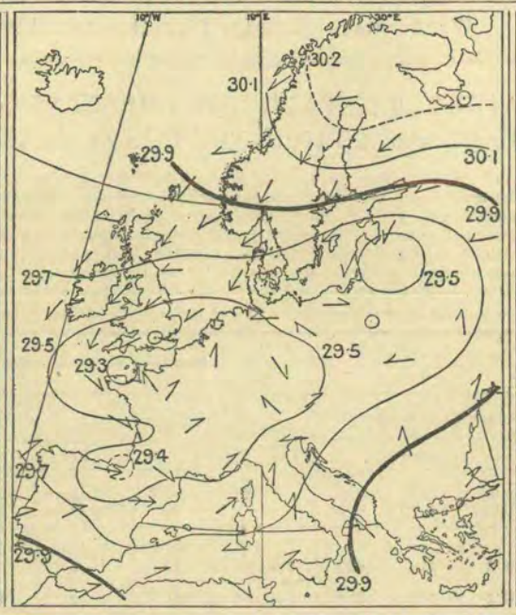
60419. 350.—10/89. Wt. 36. E. & S.

Tuesday, 22nd October.

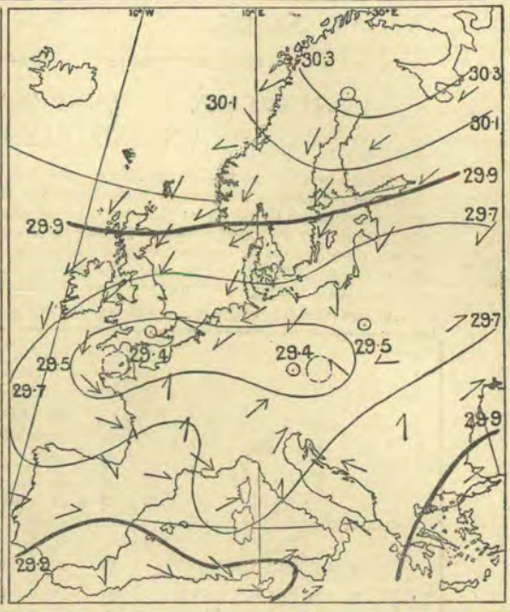
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine over Italy, Algeria, and the Mediterranean, as well as in the west of Norway and the north of Scotland; cloudy or overcast elsewhere, with rain in many places, snow at Hernösand, and fog in London, as well as over Germany. Thunder and lightning occurring during the evening or night in the south and east of England, and also at some of the French stations.

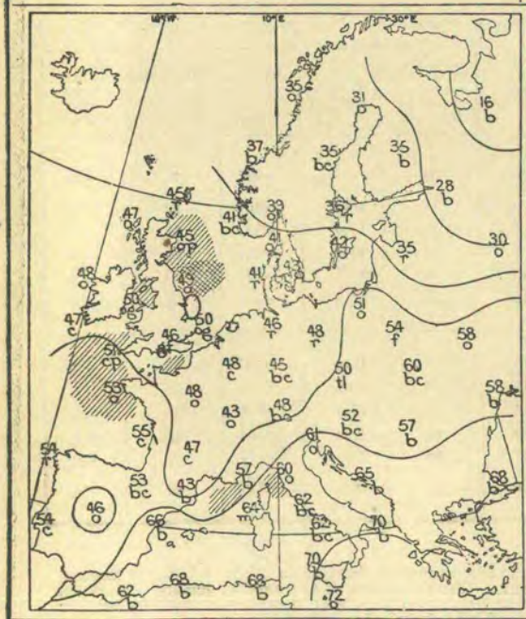
Temperature highest, 65° to 70° or a little above, over Italy, Algeria, and the Mediterranean; 60° and upwards in the extreme south of Russia. Lowest, 22° at Archangel; 32°, or less, over Lapland. Daily maxima below 40° in Lapland, below 50° over northern Europe generally, and below 55° over the greater part of the United Kingdom, but thermometer rising above 60° in the west and south of France; above 70° over the southern parts of Italy and Austria, and above 80° in Sicily and Algeria, the highest readings of all being 90° at Palermo and 88° at Tunis and Biskra.

Wind moderate to strong from the North-Eastward over the greater part of northern and north-western Europe; very variable in the more central countries; moderate from the westward over Spain, Algeria, and the west of France; Southerly over Italy and eastern Europe. Subsequently increasing to a moderate gale from the North-Eastward in the north-east of England.

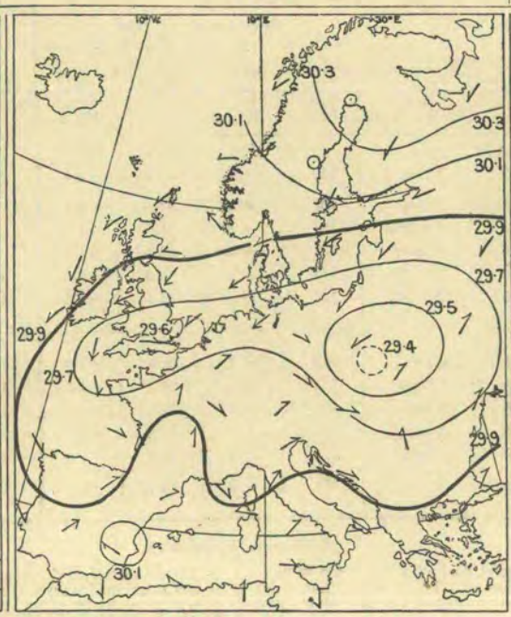
Barometer highest, 30·2 ins. and upwards, in a large area lying over Lapland and northern Russia; somewhat high, 29·9 ins. and upwards, over Morocco and the extreme south of Spain. Low, 29·6 and less, over all the more central parts of Europe, with shallow depressions over the Baltic provinces, the western parts of the English Channel, and the south-west of France. Depressions filling up partially during day, and barometer rising in nearly all places.

Wednesday, 23rd October.

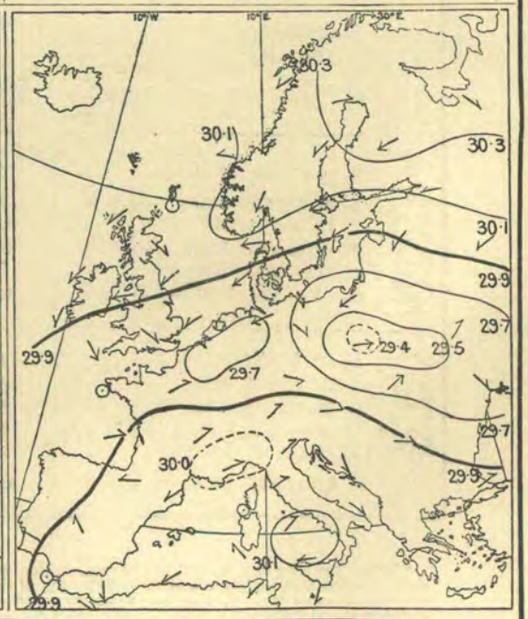
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine over nearly the whole of southern and eastern Europe as well as in the northern parts of Scandinavia and Russia. Cloudy or overcast elsewhere, with rain or passing showers in many parts of our Islands and central Europe, fog in London and a thunderstorm at Breslau. Sky clearing later at many of the English, French, and German stations, but rain falling in Poland. Thunderstorm occurring at Kiev in evening.

Temperature highest, 70° and upwards, in the extreme south of Italy; 65° and upwards at some of the Algerian stations. Lowest, 30° or less, over northern and central Russia. Daily maxima below 40° over northern Europe, and below 50° in the northern parts of the United Kingdom, but thermometer rising above 60° in France, to above 70° in the south of Italy, and above 80° in Sicily and Central Algeria, the highest reading of all being 86° at Biskra. Frost occurring over central Ireland at night.

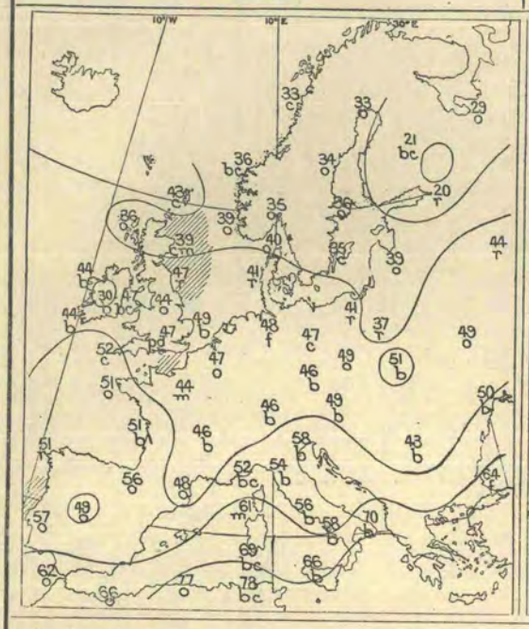
Wind moderate to strong from the Eastward or North-Eastward over all the more northern, and light from the South-Westward or Westward in most of the southern countries. Well marked cyclonic circulation of light breezes reported over the Netherlands and the east of England, and separate circulation over Poland and eastern Germany; light Southerly or South-Easterly breezes prevalent in Algeria. North-Easterly wind subsequently increasing to gale in Denmark and the south of Sweden.

Barometer highest, 30·3 ins. and upwards, in Lapland and Northern Russia; 30·0 ins. and upwards over Algeria and the greater part of the Mediterranean. Lowest, 29·4 ins. and less, in a small depression lying over Poland; 29·6 ins. and less in another small disturbance lying between the English and Dutch coasts; large trough of low pressure, 29·7 ins. and less, extending from the south of Russia across central Europe to the south-west of England. Depression over Poland subsequently spreading slowly northwards; disturbance between England and Holland moving eastwards and continuing to fill up slowly.

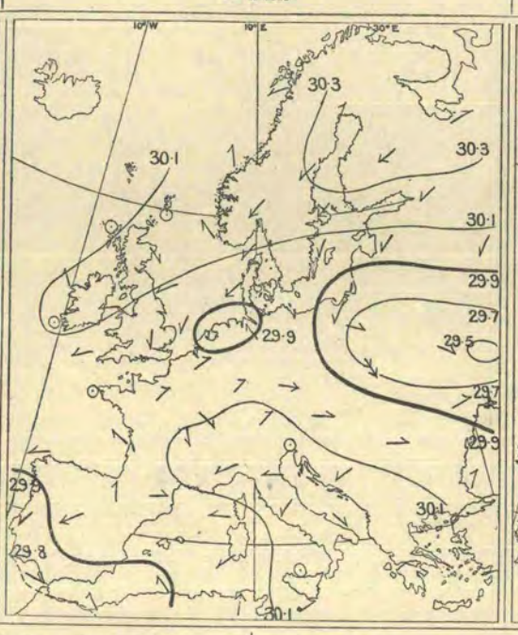
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 24th October.

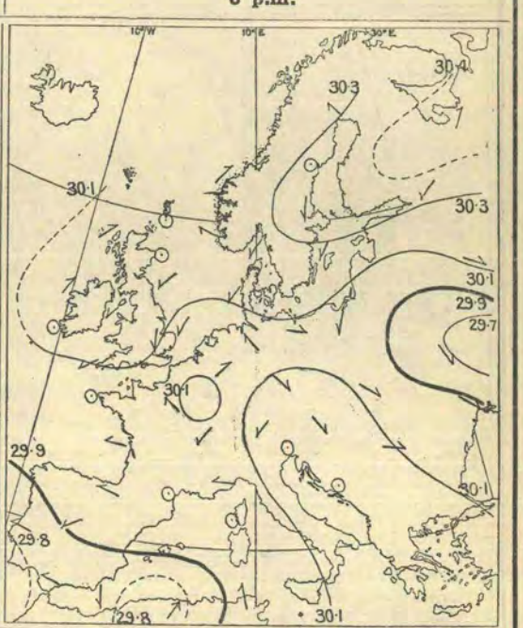
Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



6 p.m.



Weather rainy in the east and south-east of England, as well as in Denmark, north Germany, central Russia, and some parts of Spain. Fair or fine in most other localities, but foggy at Cuxhaven and Dungeness, as well as in some parts of central France. No important change occurring later.

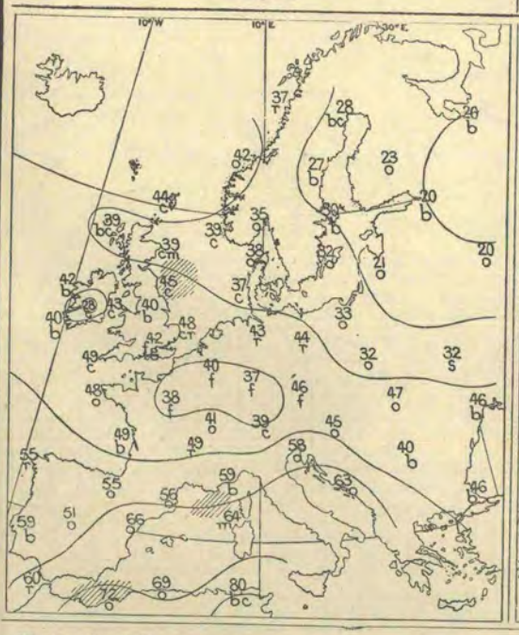
Temperature highest, 75° and upwards, at some of the Algerian stations; high, 65° and upwards, over the Mediterranean. Lowest, 32° or less, over northern and central Russia and central Ireland. Daily maxima below 40° over northern Europe, and below 50° in the north-east of Great Britain, but thermometer rising to 70° or a little above over southern Italy, and to 80° and upwards in Algeria, highest reading of all being 93° at La Calle.

Wind North-Easterly over the greater part of Scandinavia, northern Russia, the Baltic, Denmark, the North Sea, and England, as well as over the Iberian Peninsula. Calm or light from the Southward in the northern parts of Scotland and Ireland; South-Westerly over western Germany; Westerly over eastern Germany, Austria, and the south of Russia. Variable in France; moderate from South or South-East in Algeria. No important change occurring during day.

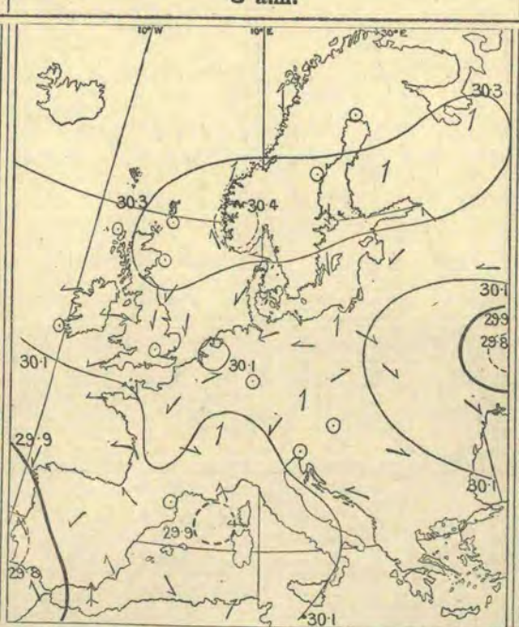
Barometer highest, 30·4 ins. and upwards, in an anticyclone lying over Finland; high, 30·1 ins. and upwards, in a long band extending from northern Europe across Scandinavia and the North Sea to Scotland and Ireland, as well as in a separate area lying over South Germany, Italy, Turkey, and the adjacent parts of the Mediterranean. Lowest, 29·5 ins. and less, in a depression lying over the south of Russia; 29·8 ins. and less in another lying over Morocco; 29·9 ins. and less in a third lying over Holland and North Germany. No important change observed later.

Friday, 25th October.

Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



6 p.m.

Weather fine in the west and north of our Islands, as well as in Sweden, the south of Austria, and the extreme south of Russia. Cloudy or overcast elsewhere, with rain and fog at several of the English, French, German, and Spanish stations. Slight rain falling later in the western and northern parts of the United Kingdom, and larger amounts in the west of France.

Temperature highest, 70° and upwards, in Algeria; high, 60° and upwards, over the Adriatic and Mediterranean. Lowest, 30° or less, over central Ireland, Sweden, and the northern and central parts of Russia. Daily maxima below 40° over northern Europe, below 50° in the northern parts of our Islands, and below 55° over the United Kingdom generally, but thermometer rising above 70° in Italy and above 80° at several of the Algerian stations, the highest readings of all being 97° at Tunis, 91° at La Calle, and 90° at Biskra. Frost occurring in the north of Scotland at night.

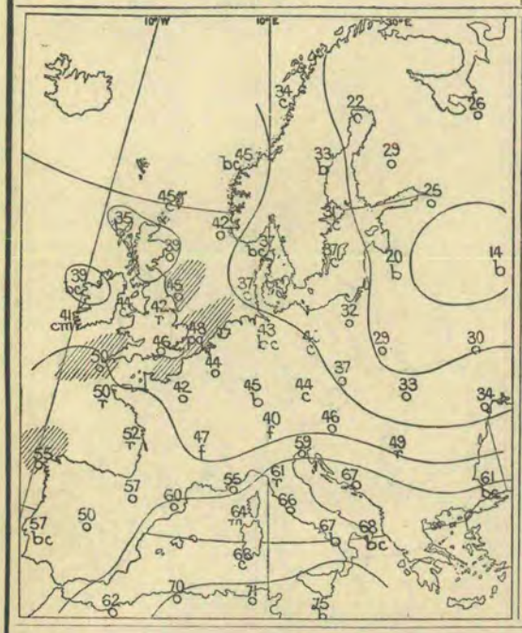
Wind light or moderate from the North-Eastward or Eastward over the greater part of northern and western Europe, but Southerly or South-Westerly in the extreme north of Russia, the west of Norway, and the north of Scotland. Light North-Westerly in the south of Russia; variable in central Europe; South-Easterly over the Iberian peninsula. Subsequently shifting to the North-Westward at some of the Spanish stations.

Barometer highest, 30·3 ins. and upwards, in a long band extending from northern Russia to Scotland. Lowest, 29·7 ins. and less, in a depression lying over the south of Russia, with its centre near Kharkov; low, 29·8 ins. and less, in another disturbance lying off the south-west of Portugal. Russian depression subsequently filling up, but Portuguese disturbance advancing across the Peninsula in a north-easterly direction.

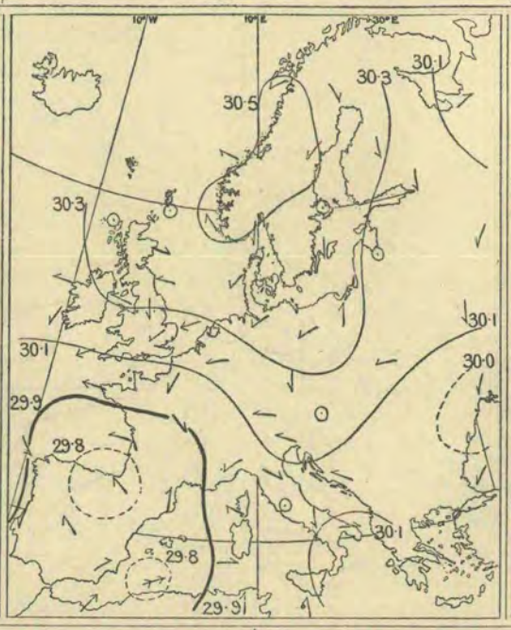
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 26th October.

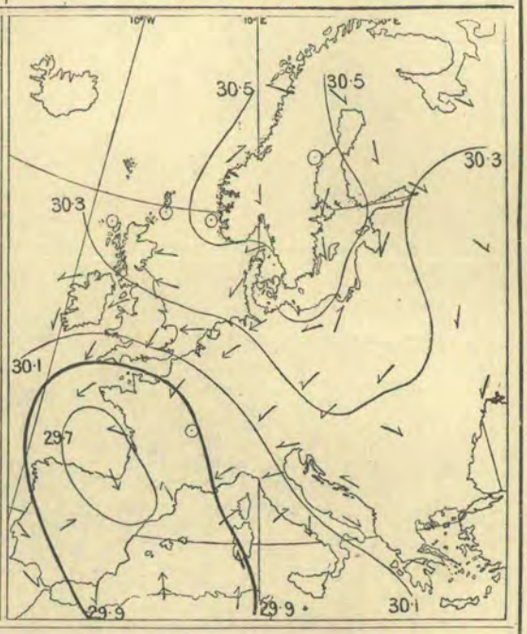
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine in the west and north of our Islands, as well as in Scandinavia, Denmark, Western Germany, Portugal, and the south of Italy. Cloudy or overcast in most other regions, with rain in the west of France and north of Italy, and snow at Helsingfors. Heavy rain falling later in the west of France, and (at night) in the south of England, the largest amounts measured next morning being 1·6 ins. at Ushant, 1·3 ins. at Nantes and Rochefort, and 1·2 ins. at Lorient and La Coubre.

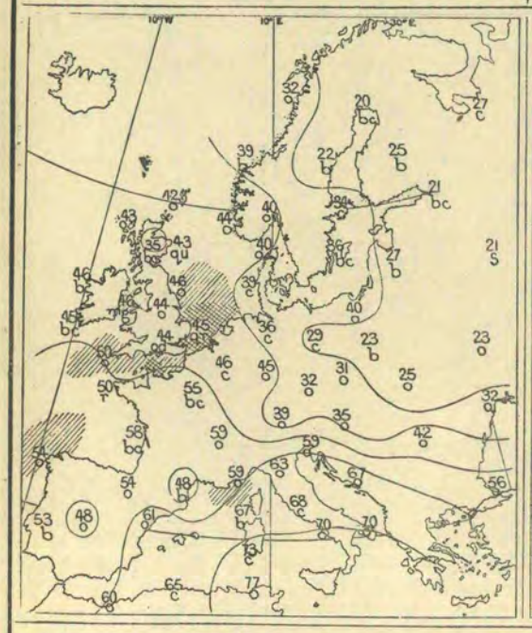
Temperature highest, 70° or a little above, on the southern shores of the Mediterranean; lowest, 20° or less, over central Russia. Daily maxima below 35° over Lapland and northern and central Russia, below 45° in Denmark and North Germany, and below 50° in all the more western and northern parts of the United Kingdom, but thermometer rising above 70° in Italy, and above 80° in Algeria, the highest reading of all being 88° at La Calle.

Wind North-Easterly or Easterly over the greater part of western and central Europe; strong in force over the Channel and south-east of England; light from the Northward in Russia and also in Portugal; Southerly or South-Westerly in Algeria, with a gale at Algiers; Westerly in Italy and the south of Austria. Subsequently increasing to a moderate gale from the Eastward or North-Eastward in the Channel and east of England.

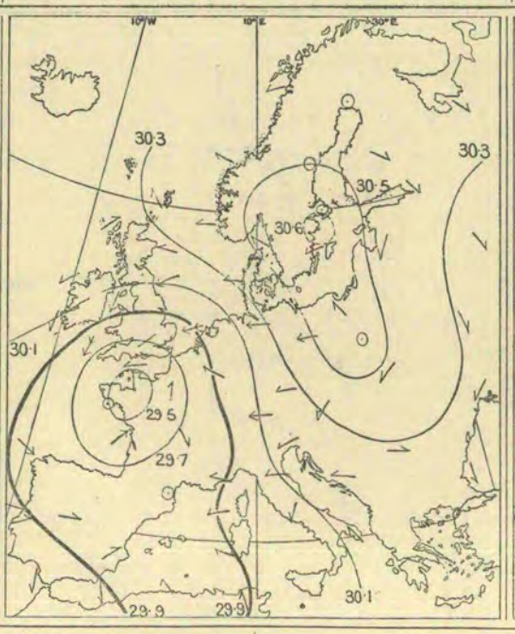
Barometer highest, 30·5 ins. and upwards, in an anticyclone lying over the greater part of Scandinavia; lowest, 29·8 ins. and less, in a large but shallow depression lying over the south-west of France and the north-east of Spain, and also in an ill-defined and still shallower disturbance lying to the northward of Algiers. Depression over France and Spain subsequently moving slowly northwards, and barometer falling briskly in the north of France and south of England.

Sunday, 27th October.

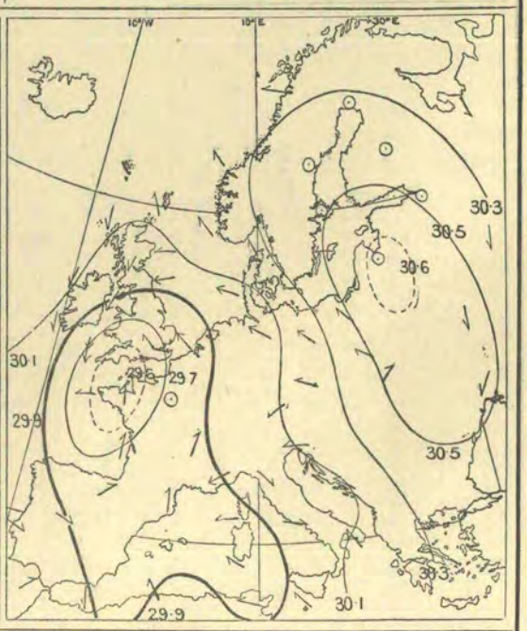
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine in Ireland as well as in the north of Scandinavia, the greater part of Russia, central France, and the south of Spain. Cloudy or overcast elsewhere, with heavy rain in the south and east of England and the north of France, and snow at Moscow. Weather improving later in the south-east of England, but heavy rain falling over our midland and northern counties.

Temperature highest, 70° and upwards, over Tunis, the south of Italy, and the neighbouring parts of the Mediterranean; lowest, 25° or less, over Lapland, Finland, and central Russia. Daily maxima below 45° in most parts of northern Europe, and below 50° over all the more northern parts of the United Kingdom, but thermometer rising above 60° in the west and south of France, and above 80° at some of the Italian and Algerian stations, the highest readings of all being 84° at Tunis and 82° at Rome.

Wind Easterly or North-Easterly over the greater part of our Islands, the North Sea, and central Europe, with a fresh to strong gale in the Channel and east of England. Moderate Westerly in Spain; South-Westerly or Southerly in France; light North-Westerly or Northerly in Russia and Italy; Southerly or South-Easterly in Algeria. Gale moderating later in south-east of England, and wind veering to the Southward, but some increase of force taking place on our western coasts.

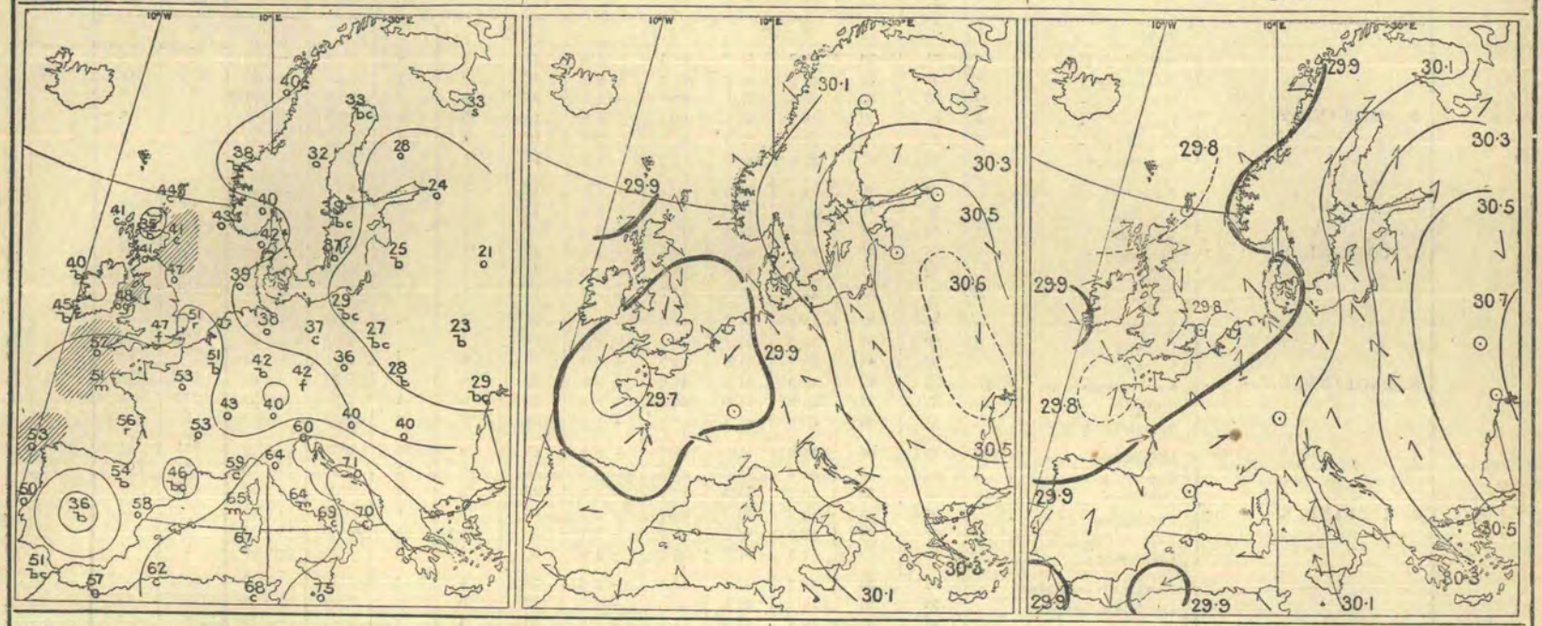
Barometer highest, 30·5 ins. to 30·6 ins., in an anticyclone extending from the central and southern parts of Sweden to Poland; lowest 29·5 ins. and less in a well-defined and rather deep depression which had travelled northwards from Spain to Brittany. Gradients steep over the southern parts of our Islands and the North Sea. Depression subsequently beginning to grow shallower and barometer rising somewhat in France and the extreme south of England.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 28th October.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine generally in Scotland, Ireland, and over Spain, as well as over eastern Germany, southern Russia, and at a few of the Mediterranean stations, dull and unsettled elsewhere, with wet mist or fog in several places, rain in others. Rain very prevalent later, except over Russia, Austria, and the western parts of the British Islands; thick fog over England.

Temperature changing irregularly; sharp frost over eastern Europe and morning readings low over the central parts of Scotland, Ireland, and Spain; air very mild over the west and north of France and south of England. Daily maximum exceeding 70° in several parts of Italy and exceeding 60° in many parts of France; reaching 58° in the Channel Islands, but not rising above 55° over England as a whole, and not reaching 50° in Scotland.

Wind South-Easterly to Southerly over Austria, Germany, the Baltic, and Scandinavia, and blowing a fresh to strong breeze at the Baltic stations. South-Westerly light to moderate in France, and also in the Shetlands and Hebrides; but Northerly to North-Easterly over England, Ireland, and Portugal, and very variable over the Mediterranean and southern Europe. North-Easterly and Northerly breezes dying out later, and the South-Westerly breeze in the north beginning to spread over the Kingdom generally.

Barometer highest, 30·3 ins. to 30·6 ins. over Russia, and exceeding 30·0 ins. over Italy, Spain and the west of Ireland also; lowest, 29.7 ins. and less, in a depression over Brittany and the mouth of the English Channel, and less than 29·8 ins. over the south and south-east of England, the north of France, and Belgium. These low pressure systems filling up later, and barometer falling decidedly in the north and west.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. n Sweden and Norway Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

In the course of this week there have been two important changes in the general distribution of pressure over western Europe. (1.) The disturbances which lay over France and the southern parts of our Islands at the beginning of the week moved eastwards towards Germany and Russia, but did not fill up completely until Friday; the northern high pressure area spread completely over the United Kingdom in their rear, and for a brief interval anticyclonic conditions prevailed very generally. (2.) A low-pressure system now advanced slowly over the Spanish Peninsula from the south-westward, and travelling northwards over the west of France, grew so much deeper that by the time it reached Brittany the gradients for North-Easterly and Easterly winds became steep over England, and fresh to strong gales from the quarters named prevailed over the south and east of England. These had died down at the close of the period, the depression was filling up, and pressure was beginning to give way over Scandinavia, Scotland, and Ireland.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	51	39	48·7	40·6	44·5	− 0·4	23	4	6	0·26	−0·73	*	*
	Stornoway	52	28	49·6	35·4	42·3	− 2·4	30	18	3	0·25	−0·86	29·3	45
	Wick	53	32	48·4	37·7	42·9	− 1·7	24	12	6	0·39	−0·27	*	*
	Lairg S	54	22	48·9	30·6	39·5	− 4·0	19	43	3	0·06	−0·87	*	*
	Glencarron S	53	26	46·7	33·1	39·7	− 3·9	13	33	2	0·12†	−1·89	26·2	40
	Fort Augustus S	52	25	47·7	34·9	41·1	− 4·1	16	27	3	0·07†	?	19·6	30
1. SCOTLAND, E.	Nairn	52	26	48·4	33·3	40·6	− 4·3	18	33	4	0·15	−0·37	*	*
	Aberdeen	50	37	47·4	40·6	43·9	− 1·0	19	4	7	0·53	−0·14	8·0	12
	Braemar S	51	27	43·6	31·8	37·5	− 3·8	4	35	5	0·41	−0·48	9·0‡	14‡
	Ochtertyre S	54	31	49·9	35·6	42·5	− 1·8	30	18	5	0·09	−0·92	*	*
	Leith S	52	37	48·4	41·9	45·1	+ 0·3	22	0	7	0·50	+0·05	*	*
	Marchmont S	48	35	45·4	40·1	42·7	+ 0·4	13	5	7	1·37	+0·61	1·8	3
2. ENGLAND, N.E.	Alnwick Castle	50	35	47·7	41·7	44·6	− 0·5	19	1	6	1·38	+0·74	*	*
	Durham	50	38	47·3	40·7	43·9	− 1·4	19	4	6	1·61	+0·93	1·4	2
	Shields	52	42	48·7	44·0	46·3	+ 0·3	30	0	6	1·03	+0·46	*	*
	Scarborough M	51	42	48·3	44·3	46·2	+ 0·5	29	0	6	1·32	+0·61	1·8‡	3‡
	York	51	37	49·3	41·9	45·5	− 1·3	25	0	6	0·92	+0·38	2·2	3
	Spurn Head	53	42	50·6	45·4	47·9	+ 1·0	41	0	6	1·37	?	*	*
3. ENGLAND, E.	Hillington M	54	37	50·9	41·9	46·3	− 0·9	31	0	5	0·47	−0·13	7·4	11
	Yarmouth	54	40	51·4	44·6	47·9	− 0·4	41	0	7	1·79	+1·10	*	*
	Geldeston	55	38	52·2	43·5	47·7	− 0·6	40	0	7	1·69	+1·08	4·6	7
	Cambridge	56	35	52·3	39·4	45·7	− 2·1	37	7	6	0·74	+0·24	9·0	13
	Rothamsted	52	38	51·0	40·7	45·7	− 1·1	31	4	6	0·80	+0·11	*	*
	Ingatestone	56	38	52·5	41·7	46·9	− 1·0	36	1	6	0·44	−0·23	‡	‡
4. MIDLAND	Bawtry (Hesley Hall)	52	36	48·7	40·6	44·6	− 2·6	24	4	7	1·13	+0·49	3·7‡	5‡
	Loughborough	53	38	50·1	42·0	45·9	− 0·6	27	0	6	1·14	+0·47	11·3‡	17‡
	Cheadle M	50	37	48·3	40·8	44·4	− 1·2	22	3	5	0·64	−0·19	*	*
	Churchstoke M	50	37	47·6	40·4	43·9	− 2·4	20	4	5	0·71	−0·10	12·2	18
	Hereford M	53	41	50·3	42·8	46·2	− 1·0	29	0	7	0·70	+0·05	*	*
	Cirencester	52	38	49·7	40·1	44·8	− 2·4	28	5	5	0·70	−0·01	11·2	16
	Oxford	54	39	51·6	41·6	46·5	− 1·1	33	1	3	0·93	+0·33	9·1	13
5. ENGLAND, S.	London	55	39	52·6	42·6	47·5	− 0·8	39	0	5	0·66	+0·05	5·9‡	9‡
	Strathfield Turgiss M	55	34	51·9	39·8	45·7	− 2·4	35	6	4	0·60	−0·01	*	*
	Dungeness	58	37	55·1	42·0	48·4	− 0·7	45	0	4	1·19	+0·42	*	*
	Hastings (St. Leonard's)	58	42	54·8	44·6	49·6	+ 0·2	53	0	4	1·10	+0·29	18·6	27
	Southampton	58	41	54·2	43·6	48·7	− 0·9	47	0	2	0·77	+0·04	9·2	13
	Hurst Castle	56	43	53·4	44·6	48·9	− 1·0	48	0	4	1·40	+0·68	*	*
	Stowell M	55	36	50·3	40·6	46·3	− 1·9	36	4	5	0·94	?	5·0‡	7‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	58	29	52·9	38·7	45·6	− 0·7	39	9	1	0·08†	−1·77	*	*
	Glasgow	51	36	47·6	40·0	43·7	− 0·4	20	6	2	0·03	−0·87	12·3	19
	Ardrossan	52	36	48·6	39·4	43·9	− 1·9	24	7	1	0·01	−0·94	*	*
	Glenlee S	52	26	48·6	36·4	42·3	− 2·7	26	16	3	0·03	−1·31	*	*
	Douglas (Isle of Man)	54	38	49·9	43·1	46·4	− 0·7	31	0	2	0·17	−0·82	23·9	35
7. ENGLAND, N.W.	Newton Reigny (Penrith)	49	26	47·1	37·6	42·2	− 2·6	20	12	6	0·28	−0·52	8·8	13
	Barrow-in-Furness	55	38	50·3	41·9	46·0	− 1·6	28	0	2	0·25	−0·68	*	*
	Stonyhurst	51	35	48·3	40·4	44·2	− 2·1	22	4	3	0·41	−0·81	10·1	15
	Blackpool M	55	35	51·0	40·5	45·6	− 2·8	32	4	3	0·13	−0·82	13·0	19
	Manchester	51	37	48·9	41·2	44·9	− 1·9	24	2	5	0·45	−0·49	*	*
	Liverpool Obsy (Bidston)	52	39	49·1	42·1	45·5	− 2·6	25	0	3	0·23	−0·57	*	*
	Llandudno M													
	Holyhead	53	40	50·6	44·0	47·2	− 2·7	36	0	4	0·16	−0·84	*	*
8. ENGLAND, S.W.	Llandovery	54	34	51·6	40·3	45·8	− 2·8	34	5	5	0·48	−0·77	*	*
	Pembroke	53	42	51·4	43·7	47·4	− 3·5	38	0	2	0·17	−0·75	17·0	25
	Arlington (N. Devon)	56	37	50·7	41·0	45·7	− 2·3	30	3	6	1·03	−0·32	*	*
	Cullompton M	58	38	51·7	41·2	46·3	− 2·3	33	2	5	0·76	−0·13	4·7	7
	Falmouth	56	40	51·9	44·2	47·9	− 3·0	41	0	5	0·56	−0·69	9·9	14
	Plymouth	58	40	52·3	42·0	47·0	− 3·4	35	0	4	0·23	−0·62	9·0	13
	Prawle Point	57	40	53·7	43·4	48·4	− 2·3	45	0	4	1·03	?	*	*
9. IRELAND, N.	Malin Head	52	40	49·7	43·9	45·7	+ 0·1	33	0	3	0·36	?	*	*
	Londonderry	54	33	52·1	36·8	44·2	− 1·8	37	15	2	0·07	−0·92	*	*
	Mullaghmore	55	37	51·9	41·3	45·4	+ 0·1	34	2	1	0·11	−0·86	*	*
	Belmullet	55	36	52·0	41·3	45·5	− 2·7	34	2	6	0·32	?	*	*
	Markree Castle	55	25	51·1	32·8	41·7	− 3·9	25	37	1	0·07	−0·80	35·0	51
	Brookeborough	53	27	50·3	32·1	40·9	− 4·3	23	38	1	0·05	?	*	*
	Armagh	52	31	50·0	35·7	42·6	− 3·2	31	18	3	0·07	−0·61	24·6	36
	Donaghadee	53	43	50·1	45·1	47·5	− 1·0	39	0	3	1·13	+0·38	*	*
	Edgeworthstown	51	31	48·7	36·6	42·5	− 2·9	26	15	2	0·05	−0·66	*	*
10. IRELAND, S.	Dublin	52	38	49·5	42·5	45·9	− 1·6	27	0	6	0·62	−0·06	9·5	14
	Parsonstown	52	28	50·1	34·0	41·8	− 4·5	23	32	3	0·06	−0·66	24·9	37
	Kilkenny	52	34	50·0	38·3	44·0	− 2·8	30	10	2	0·26	−0·42	*	*
	Waterford	53	36	50·8	40·6	45·6	− 3·6	31	4	3	0·24	−0·68	*	*
	Roche's Point	55	30	52·0	41·0	46·3	− 3·6	34	3	3	0·35	−0·60	*	*
	Valencia	55	36	52·4	41·0	46·5	− 4·2	36	3	0	—	−1·36	35·5	51
	Killarney	52	27	49·5	33·2	41·1	− 7·9	21	34	0	—	?	*	*
	Poynes	53	36	49·8	37·4	43·4	− 3·8	29	13	1	0·04	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	54	47	52·4	47·9	50·1	− 2·8	57	0	6	0·98	+0·10	*	*
	Jersey	65	45	57·6	48·0	52·7	+ 0·4	75	0	5	1·06	+0·07	17·1	24

Stations marked M are in connection with the Royal Meteorological Society, and those marked S with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

(OFFICIAL COPY.)

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 44.] *Third Series.* WEEK ENDING MONDAY, 4TH NOVEMBER, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number, TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 264.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	54	30	49·1	38·6	43·9	1 above.	28	+ 8	10	− 5	1983	+163	571	+ 17
	1. SCOTLAND, EAST	57	29	49·2	37·5	43·4	1 above.	29	+ 5	13	− 4	2285	− 32	602	+ 12
	2. ENGLAND, N.E.	57	32	51·3	41·1	46·2	2 above.	33	+ 8	3	−10	2462	− 32	499	− 11
	3. ENGLAND, EAST	59	33	53·2	41·0	47·1	1 above.	40	+11	3	− 9	2821	− 45	640	+107
	4. MIDLAND COUNTIES	58	32	52·6	40·4	46·5	2 above.	38	+10	4	−11	2778	− 48	600	+ 58
	5. ENGLAND, SOUTH	59	37	54·8	43·7	49·3	2 above.	51	+16	0	− 9	3116	+ 9	452	+ 60
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	58	30	51·0	40·4	45·7	2 above.	33	+ 6	4	− 9	2454	+ 10	398	− 29
	7. ENGLAND, N.W.	57	39	51·9	43·9	47·9	2 above.	41	+12	0	− 9	2617 *	+ 10	385 *	− 17
	8. ENGLAND, S.W.	58	27	54·1	43·5	48·8	1 above.	48	+ 5	0	− 4	2867	−122	327	+ 86
	9. IRELAND, NORTH	55	32	51·3	40·1	45·8	1 above.	35	+ 5	5	− 5	2559	+ 28	320	− 52
	10. IRELAND, SOUTH	58	29	53·1	40·8	47·0	0 (average).	40	+ 1	3	− 5	2838	− 35	248	− 7
	— CHANNEL ISLANDS	59	47	55·4	48·9	52·2	1 above.	71	+14	0	0	3357	+ 82	77	− 16

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 264.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	6	20	2 more.	205	+15	35·2	−0·3	5	8	924	−233	23	− 5
	1. SCOTLAND, EAST	6	9	2 more.	173	+11	23·8	−3·6	9	15	1143	−170	29	− 3
	2. ENGLAND, N.E.	5	4	2 less.	160	+ 3	22·1	−1·2	15	23	1071	−127	27	− 3
	3. ENGLAND, EAST	4	5	1 less.	163	+ 2	23·8	+1·8	27	41	1241	−212	31	− 6
	4. MIDLAND COUNTIES	5	5	2 less.	154	− 3	24·7	−0·5	22	33	1153	−149	29	− 4
	5. ENGLAND, SOUTH	5	10	3 more.	154	+ 4	23·5	0·0	23	35	1235	−162	31	− 4
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	7	19	3 more.	176	+ 2	34·9	−5·0	12	18	1222	− 40	31	− 1
	7. ENGLAND, N.W.	6	10	0 (average).	165	+ 2	27·7 *	−2·1	13	20	1177 *	− 83	30	− 2
	8. ENGLAND, S.W.	6	14	4 more.	167	− 5	30·8	−5·6	20	31	1406	−100	36	− 2
	9. IRELAND, NORTH	7	14	6 more.	197	+ 4	33·6	+3·2	14	22	1053	−123	26	− 4
	10. IRELAND, SOUTH	6	10	2 more.	176	− 4	31·5	−1·9	16	25	1294	− 54	33	− 1
	— CHANNEL ISLANDS	7	14	4 more.	175	−10	25·4	−2·2	24	36	1626	−156	41	− 4

General Remarks.

Weather has been in a changeable and unsettled condition very generally, with frequent falls of rain. Over the greater part of England, however, several intervals of bright sunshine have been experienced.

Temperature has been from 1° to 2° above the mean in nearly all districts. The highest of the maxima were recorded at most stations on 30th October, when they varied from 54° in "Scotland, N." and 55° in "Ireland, N." to 59° over eastern and southern England and in the "Channel Islands". The lowest of the minima, which were registered on rather irregular dates, ranged from 27° in "England, S.W." (at Llandovery), and 29° in "Scotland, E." and "Ireland, S." to 37° in "England, S.", 39° in "England, N.W." and to 47° in the "Channel Islands".

Rainfall has been a little less than the mean over the central, eastern, and north-eastern parts of England, but more in nearly all other places.

Bright sunshine has been more prevalent than it was last week over England, but in Ireland and most parts of Scotland a decided decrease is shown. The percentage of the possible amount of duration ranged from 8 in "Scotland, N." and 15 in "Scotland, E." to 35 in "England, S.", and 41 in "England, E." In the "Channel Islands" the percentage was 36.

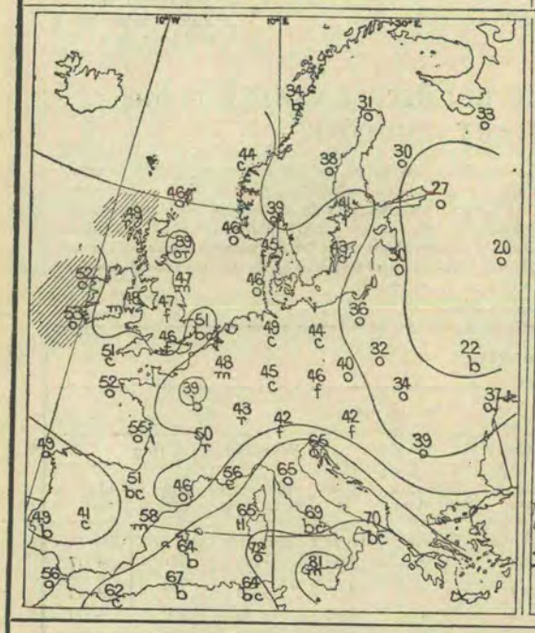
Barometer and Wind.—During nearly the whole of this period depressions moved in a north-easterly direction either over our more northern districts or outside our extreme north-west coasts. The disturbances were, as a rule, of no great importance but that which lay off the north-east of Ireland at 8 a.m. on November 1st, was very deep, and caused strong winds or gales in all parts of the Kingdom. Over the north of Ireland, the north-west of England, and at some of the southern Scotch stations the Westerly gale was severe.

* This value has been altered owing to the receipt of further information.

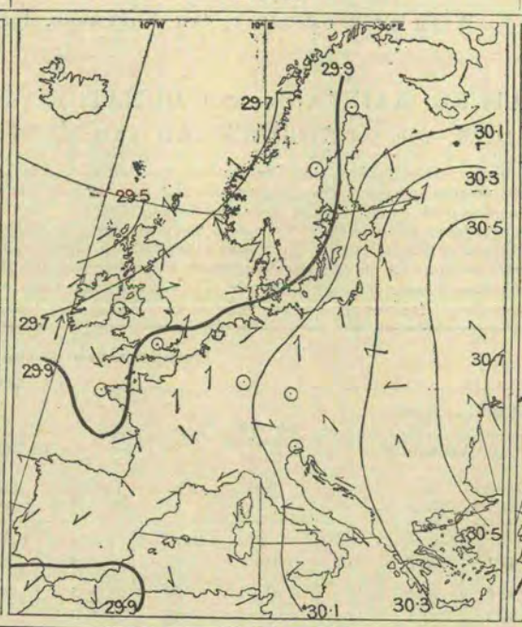
60525. 350.—11/89. Wt. 36. E. & S.

Tuesday, 29th October.

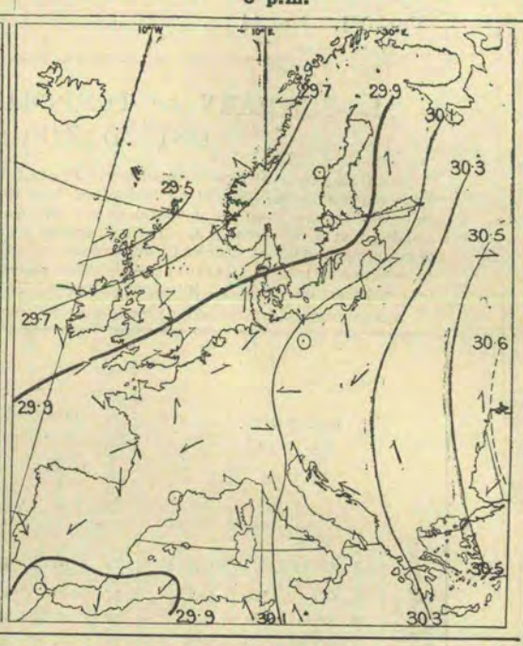
Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



6 p.m.



Weather varying greatly in different localities, but more unsettled over the British Islands and north-western Europe than elsewhere. Much fog over England, and locally in several parts of the Continent; rain in several places, clear skies in others. Rain in many places during day, most over the southern parts of central France.

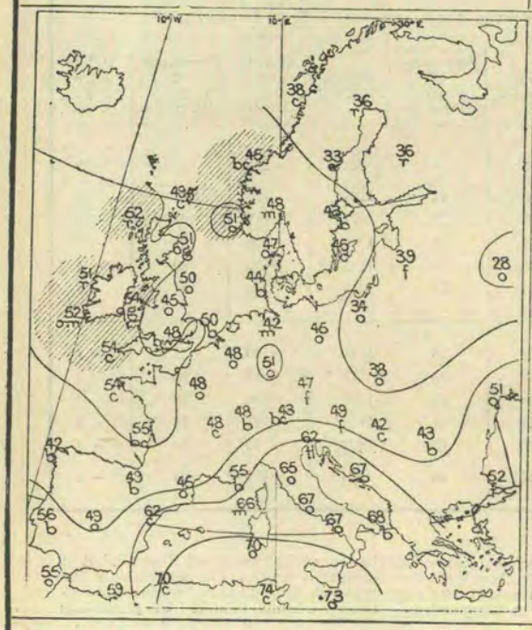
Temperature very unsteady in the west and north-west; rising fast in our Islands, falling fast over Frauce. Ranging from between 65° and 75° over the southern and eastern parts of the Mediterranean, and from upwards of 50° in the south-west and south of the British Islands, to considerably less than the freezing point over Russia. Daily maxima ranging from 50° to 58° over England, exceeding 75° over southern Italy, and touching 80° in some parts of Algeria.

Wind Southerly to South-Westerly over the Baltic, Scandinavia, and the greater part of our Islands—moderate as a rule, but strong in the extreme west and in a few other isolated places. Light and variable over the Continent as a whole, moderate and variable over the Mediterranean. No decided change later.

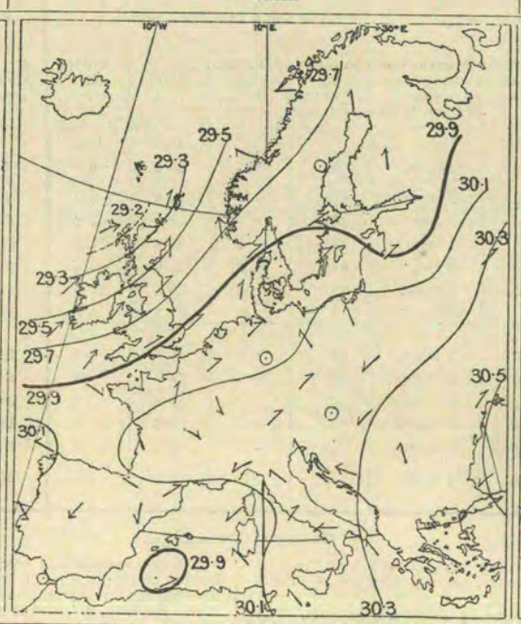
Barometer highest (30·2 ins. to about 30·8 ins.) over Poland and Russia; lowest (29·5 ins. and less) over the north-western parts of the United Kingdom; shallow local depressions in some north-western localities. High pressure area over Russia tending to give way later, but not much change observed elsewhere.

Wednesday, 30th October.

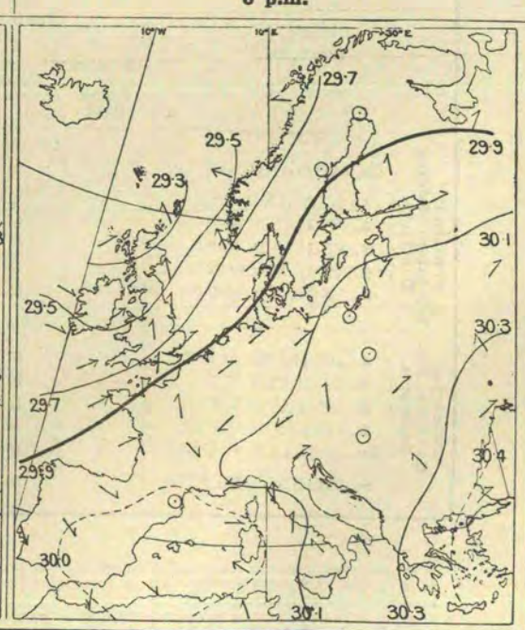
Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



6 p.m.



Weather still very changeable and unsettled over British Islands and north-western Europe, rain and clear skies alternating; not at all settled even over central and eastern Europe. Rainfall considerable in the west later, and very heavy over the southern parts of France and northern Italy, where also thunderstorms occurred. Fog prevalent again in Austria and some other parts of Europe.

Temperature risen decidedly both over western and eastern Europe; frost slight in morning even over central Russia, but thermometer readings not at all uniform even in the west and south-west. Daily maxima recorded as high as 59° in some parts of England during day, those in Italy much higher; 86° recorded in some parts of Algeria.

Wind Southerly and South-Westerly (strong) over the British Islands and North Sea, Southerly and South-Easterly over Scandinavia, the Baltic and Germany, and Easterly to South-Easterly on the northern shores of the Mediterranean; light and very variable elsewhere. Cyclonic circulation over the Riviera and south of France later and strong South-East wind at Cagliari. Wind in Ireland veering Westwards and falling light.

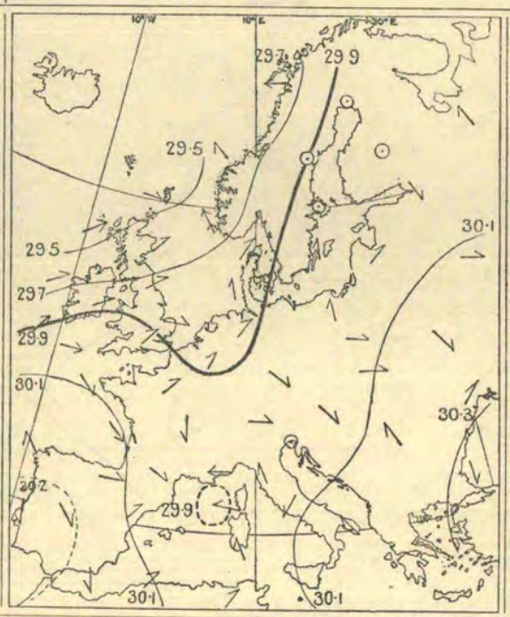
Barometer lower very generally than on the 29th, but especially over Russia, where the high pressure area recently noticed was giving way quickly and moving south-eastwards. Depressions off the north-west of our Islands moving north-eastwards, and another over the western part of the Mediterranean; latter spreading north-eastwards to Gulf of Genoa later.

II.—SUMMARY OF WEATHER OVER EUROPE.

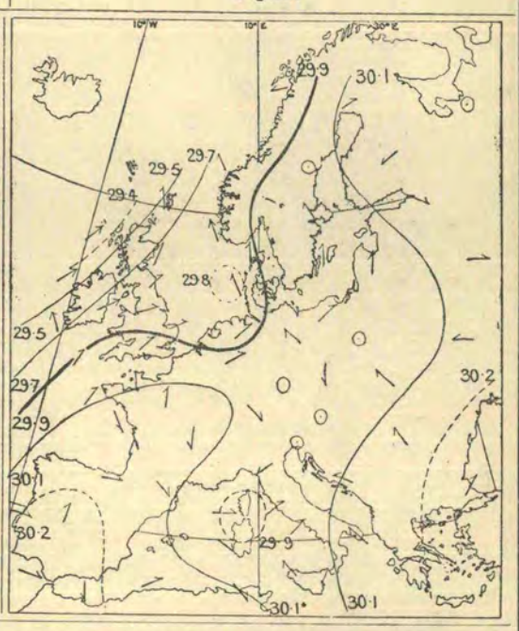
Thursday, 31st October.

Temperature and Weather. **8 a.m.**

Barometer and Wind. **8 a.m.**



6 p.m.



Weather temporarily much finer over the British Islands and their neighbourhood at first; dull and unsettled elsewhere, with fog in many places, rain in many others, especially in the south-east of France, Switzerland, and Italy. Rain subsequently setting in over the United Kingdom, and falling most heavily in the west of Ireland.

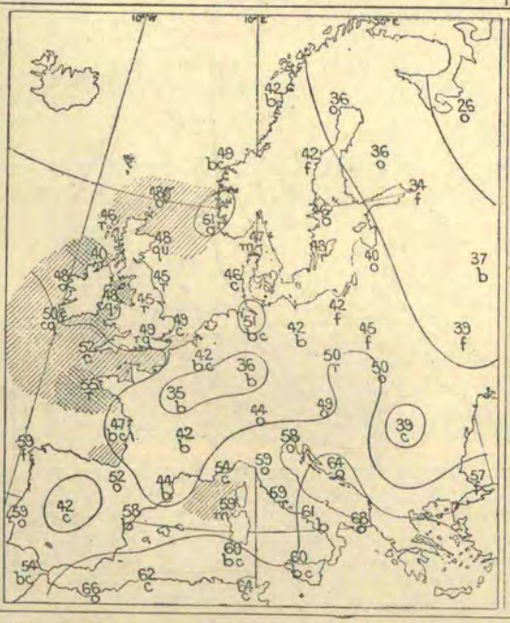
Temperature remaining very unsteady over north-western Europe and the British Islands, rising in the east. Frost prevailing at 8 a.m. in the northern parts of Russia, Finland, and Lapland only. Daily maxima exceeding 50° in all parts of Great Britain and Ireland, exceeding 60° in the southern parts of France, and exceeding 70° in southern Italy and Algeria.

Wind Westerly and South-Westerly (moderate to fresh) over the United Kingdom, Southerly over Germany, the Baltic, and eastern shores of the North Sea, North-Westerly over the Bay of Biscay, and variable over central Europe. Definite cyclonic circulation over the northern parts of the Mediterranean and Gulf of Genoa. Backing to Southwards in west of our Islands later, and increasing greatly in force at Valencia.

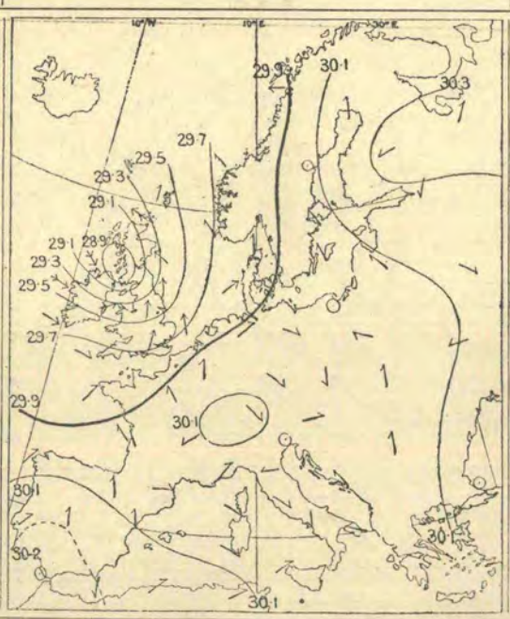
Barometer highest, 30·1 ins. to 30·3 ins. over the southern parts of Russia, the Black Sea, and Balkan peninsula, and 30·1 ins. to 30·2 ins. over the Spanish peninsula and Bay of Biscay; lowest, 29·5 ins. and less off our north-western coasts. Well formed depression near Corsica. Rising at first over north-western Europe, falling in most other places, but fresh fall setting in over Ireland later.

Friday, 1st November.

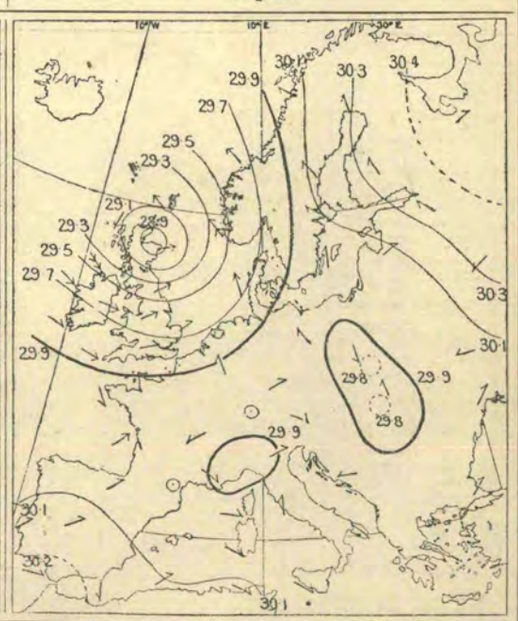
Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



6 p.m.



Weather fine in Germany, the Netherlands, the west of Norway, and the east of France, as well as in Algeria and the south of Spain. Cloudy or overcast elsewhere, with rain in the north of Ireland, the north and east of England and the north-west of France, as well as at Wisby and Cracow. Fog reported at several of the Russian stations. Rain falling during day in many parts of Europe,—heavily in the north of Scotland—but weather improving considerably over England and Ireland.

Temperature highest, 60° and upwards, over the Adriatic and the southern parts of the Mediterranean; lowest, 30° and less, over north of Russia, and less than 40° over western Germany, and central France. Daily maxima over the greater part of our Islands, ranging between 50° and 55°, but thermometer rising above 60° in the south of France and above 70° in Algeria and the south of Italy. Highest reading of all 77° at Malta.

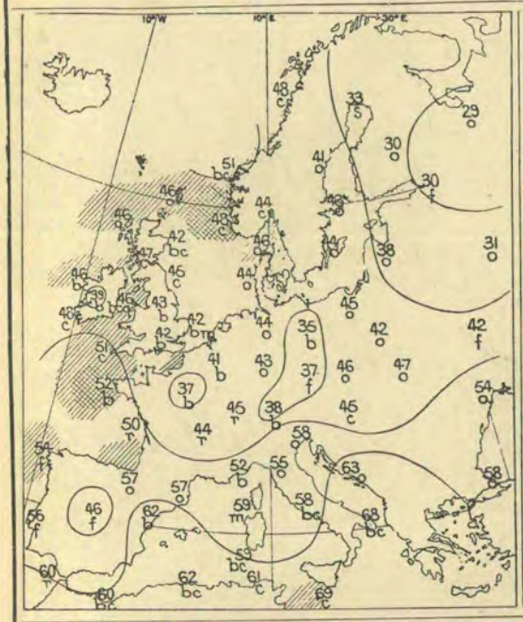
Wind strong to a gale in nearly all parts of our Islands,—from West and North-West over our western and southern coasts, from South in the east, and from South-East in the north. Light and moderate from the South-Westward and Southward over Spain, the west and north of France, the Netherlands and Denmark, South-Easterly in Scandinavia; light and variable over Russia, Italy, and Austria. Wind moderating later over Ireland and England, but increasing to strong gale from the Westward in the west and south of Scotland.

Barometer highest, 30·3 ins. and upwards, in an anticyclone lying over northern Russia; 30·2 ins. and upwards in another area lying over Morocco and the south of Spain. Lowest, 28·9 ins. and less, in a deep depression the centre of which lay over the north-east of Ireland and the south-west of Scotland. Depression subsequently moving north-eastwards across Scotland, and barometer rising over Ireland and England.

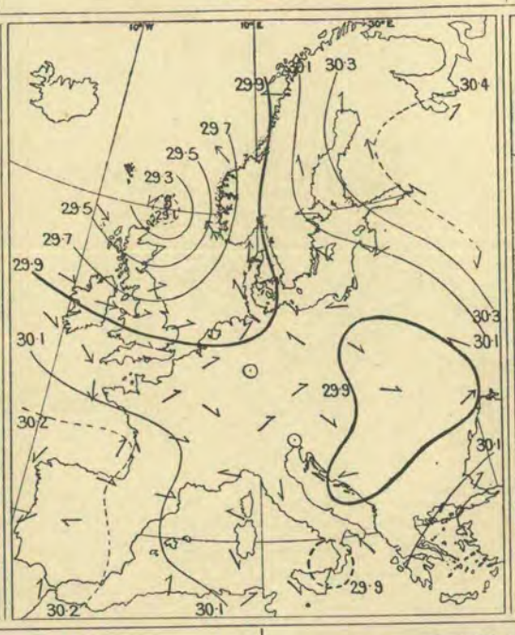
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 2nd November.

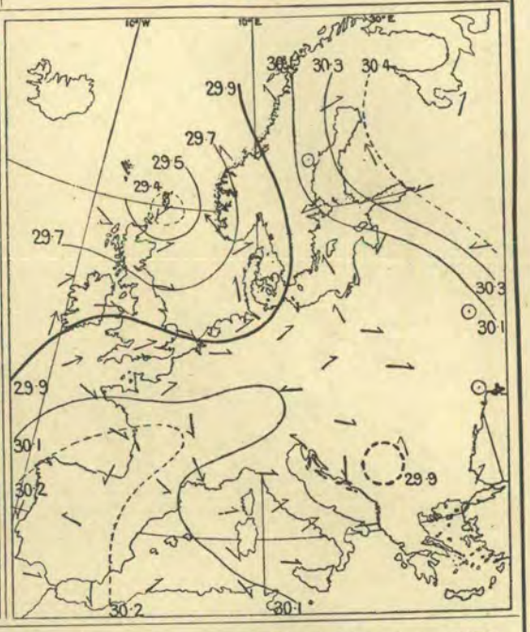
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine over the greater part of Ireland, England, the Netherlands, and the north of France, as well as in Italy and Algeria. Cloudy or overcast elsewhere, with rain in the north of our Islands, as well as over central France, snow in Lapland. Fog reported at some of the Russian and German stations. Subsequently becoming dull and unsettled in all the more western parts of our Islands, with rain at night.

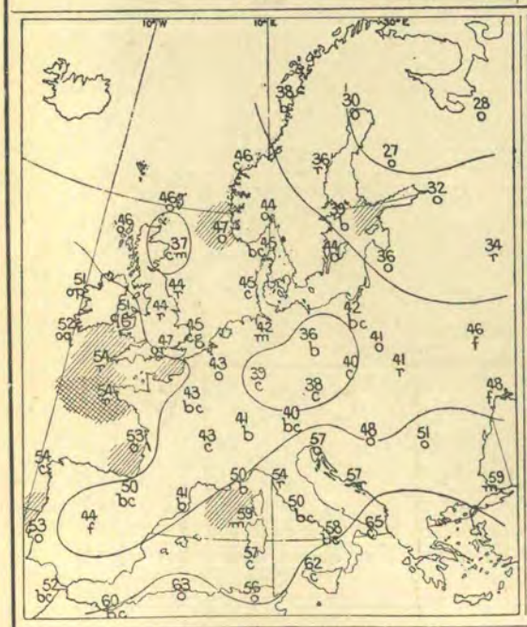
Temperature highest, 60° and upwards, over the Adriatic and the central and southern part of the Mediterranean, lowest 32° or less, over northern and central Russia. Daily maxima over our Islands varying between 48° and 56°, but thermometer rising above 60° in all parts of southern Europe, and above 70° in the south of Italy and some parts of Algeria.

Wind Westerly or North-Westerly over the greater part of our Islands (strong on our north-west coasts), but South-Westerly on the east coasts of Great Britain as well as the Netherlands, central France, and the south of Germany. Moderate to strong from the South-Eastward over Northern Europe; light from the Eastward over Central Russia; variable over Italy, Spain, and the Mediterranean. Subsequently backing to the South-Westward or Southward on our western coasts, and increasing to a strong breeze in the west of Ireland.

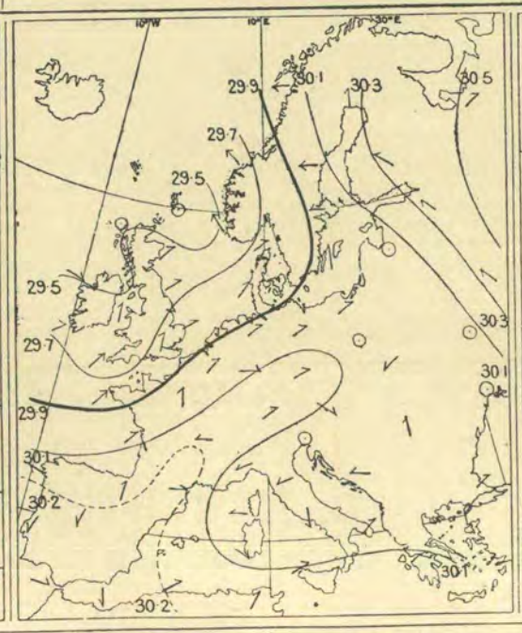
Barometer highest, 30·4 ins. and upwards, in a large anticyclone lying over northern and central Russia; 30·2 ins. and upwards in another area lying over the Iberian peninsula and the southern parts of the Bay of Biscay. Lowest, 29·2 ins. and less, in a rather deep depression which had advanced from our north-west coasts to the neighbourhood of the Shetlands. Depression filling-up steadily during day, but new disturbance approaching our western coasts from Atlantic.

Sunday, 3rd November.

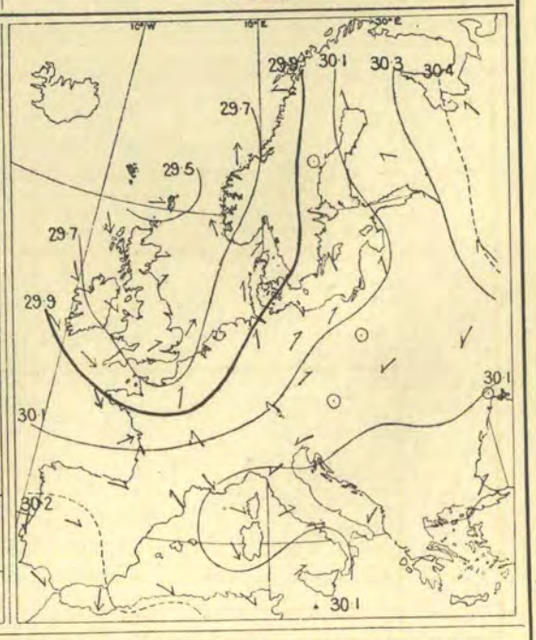
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine in Denmark, Germany, and the south of Sweden, as well as in Italy and the south of France. Cloudy or overcast elsewhere, with rain at nearly all the English stations, as well as in some parts of Russia. Fog reported over the south of Russia. Rain falling during day in nearly all parts of western and northern Europe, but some improvement in the weather taking place in the west and south of England.

Temperature highest, 60° and upwards, over the south of Italy and some parts of Algeria; lowest, 32° or less, over Lapland and northern Russia. Daily maxima over our Islands ranging from about 45° in the north of Scotland to about 55° in the extreme south of England. Thermometer remaining below 60° at most of the French stations, but temperature rising above 70° in the south of Italy and some parts of Algeria. Frost occurring in the north of Scotland at night.

Wind South-Westerly over the greater part of Ireland and England, as well as in France, Germany, the Netherlands, and Denmark; strong in force over the Bristol and English Channels. Light and variable in Scotland; strong from the South-Eastward or Eastward over northern Europe; calm or light and variable over nearly the whole of eastern and southern Europe. Subsequently increasing to a gale from the South-Westward in the Channel, but veering to the North-Westward on our western coasts.

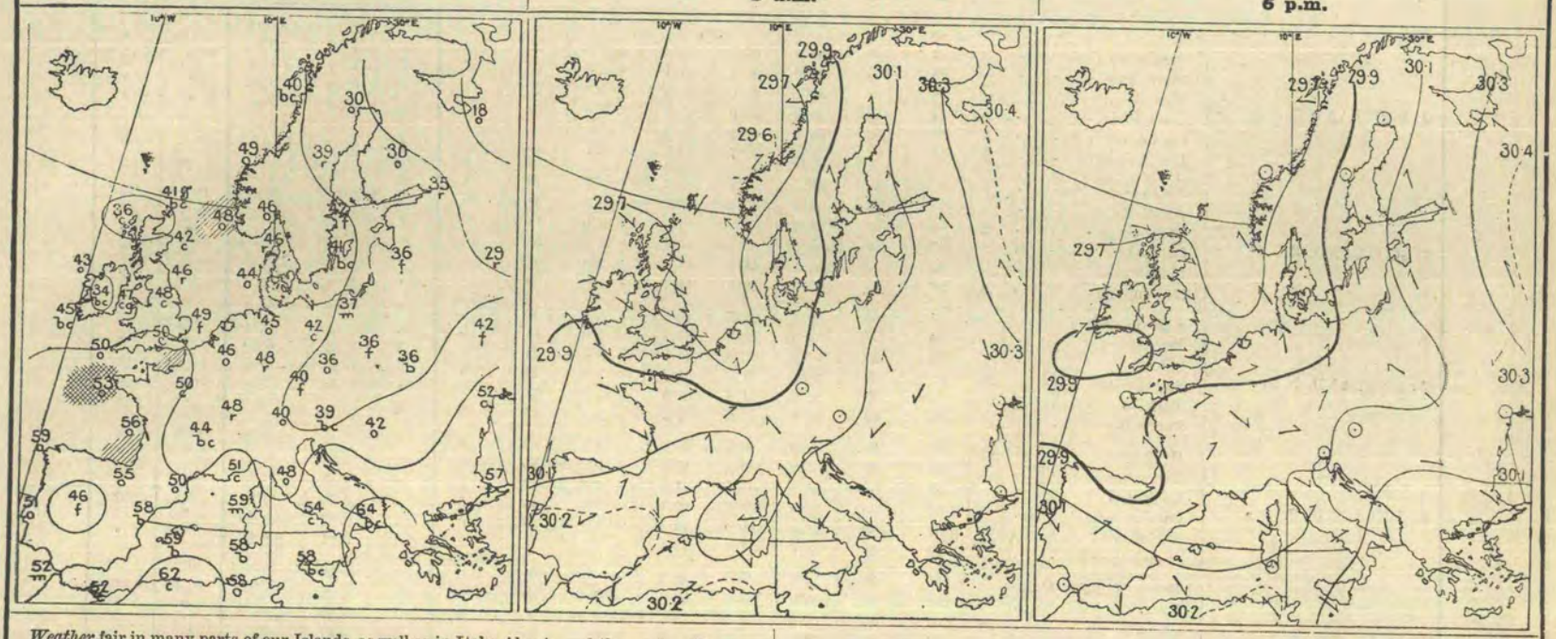
Barometer highest, 30·5 ins. and upwards, in a large anticyclone lying over northern and central Russia; high, 30·2 ins. and upwards, in another large system lying over the Iberian Peninsula and western Algeria. Lowest, 29·4 ins. to 29·6 ins., in a large and irregularly shaped area lying over the west and north of our Islands and the northern parts of the North Sea, with ill-defined minima off the north-east of Scotland, the north of Ireland, and over the St. George's Channel. Low pressure area subsequently moving eastwards, and barometer rising briskly on our western coasts.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 4th November.

Temperature and Weather. **8 a.m.**

Barometer and Wind. **8 a.m.** **6 p.m.**



Weather fair in many parts of our Islands, as well as in Italy, Algeria, and the south of France, dull elsewhere, with fog in many places, and rain at some of the Russian stations, as well as in western Germany and the east of France. Rain falling later at some of our western stations, as well as on the eastern shores of the North Sea. Solar and lunar halos seen in many parts of our Islands.

Temperature highest, 55° and upwards, over the Mediterranean, Algeria, the south of Italy, and the coasts of the Iberian peninsula; lowest, 30° or less, over northern and central Russia. Daily maxima below 50° over the northern parts of our Islands, but thermometer rising above 60° in all parts of southern Europe, and above 70° in Sardinia and Algeria, the highest reading of all being 79° at Cagliari.

Wind light or moderate from the Westward or North-Westward over the greater part of the United Kingdom, and from the South-Westward in France and the north of Spain. Southerly or South-Easterly over northern and central Europe; North-Easterly or Northerly over Italy, the Mediterranean, and the south of Spain; Southerly in Algeria. Subsequently backing to the South-Westward in Ireland.

Barometer highest, 30·4 ins. and upwards, in a large anticyclone lying over northern and central Russia; 30·2 ins. and upwards in another system lying over the southern parts of the Iberian peninsula. Lowest, 29·6 ins. and less, in a shallow depression, lying off the west of Norway, but trough of low readings, 29·7 ins. and less, extending southward over the North Sea to Holland. New but shallow area of low readings approaching our extreme north-west coasts later, and barometer falling at all our western stations.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. n Sweden and Norway Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

At the commencement of this week pressure was highest, 30·2 ins. to 30·8 ins.[1] in a large anticyclone over Russia; lowest, 29·5 ins. and less, off the north-western coasts of the British Islands, and depressions were skirting our north-western coasts in a north-easterly direction, causing mild showery weather over north-western Europe, while sharp frost prevailed in the east. The Russian pressures soon gave way, and as another high-pressure system began to appear over south-western Europe, the depressions which appeared in the north-west took a more easterly course than hitherto, and one of them caused strong gales over the northern parts of the Kingdom on Friday. Over the Mediterranean and southern Europe also the weather was very unsettled, rainy, and thundery on the 29th and 30th of October.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
October 14th	Llandudno	57	39	55·3	42·9	48·9	− 3·6	48	0	3	0·58	− 0·31	27·8	37
„ 21st	„	58	41	54·0	43·3	48·5	− 2·4	46	0	6	0·83	− 0·07	3·3	5
„ 28th	„	52	38	49·4	43·8	46·5	− 3·0	32	0	3	0·39	− 0·49	7·9	12

III.—DATA from which the SUMMARY on page 259 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	52	39	49·4	42·7	46·1	+ 2·4	29	0	5	0·90	−0·09	*	*
	Stornoway	53	32	49·6	39·1	44·4	+ 0·9	29	8	7	2·18	+1·08	7·3	12
	Wick	54	32	49·1	38·0	43·6	+ 0·4	28	11	5	0·94	+0·26	*	*
	Lairg ℳ	54	30	48·9	36·0	42·5	+ 0·3	29	17	4	0·59	−0·32	*	*
	Glencarron ℳ	53	35	48·8	38·1	43·5	+ 1·3	27	11	7	5·60†	+3·44	3·0	5
	Fort Augustus ℳ	53	34	49·0	37·7	43·4	− 0·1	28	12	7	1·87†	?	3·5	6
1. SCOTLAND, E.	Nairn	57	34	50·6	37·7	44·2	+ 1·2	33	12	5	0·61	+0·08	*	*
	Aberdeen	53	33	49·4	36·4	42·9	− 0·3	30	16	6	0·34	−0·36	12·1	20
	Braemar ℳ	52	30	45·9	34·7	40·3	+ 0·6	11	28	7	1·88	+0·99	9·7‡	16‡
	Ochtertyre ℳ	53	29	48·6	36·1	42·4	− 0·4	28	17	7	1·49	+0·49	*	*
	Leith ℳ	57	39	51·1	41·1	46·1	+ 2·9	32	3	5	0·57	+0·10	*	*
	Marchmont ℳ	52	34	49·6	38·9	44·3	+ 3·6	29	9	7	0·73	−0·06	5·8	9
2. ENGLAND, N.E.	Alnwick Castle	57	32	50·7	39·7	45·2	+ 1·5	32	6	6	0·65	−0·05	*	*
	Durham	54	37	50·9	39·8	45·4	+ 1·9	33	6	6	0·57	−0·11	15·1	24
	Shields	54	40	51·6	42·0	46·8	+ 2·0	34	0	5	0·60	0·00	*	*
	Scarborough ℳ	52	39	50·1	41·1	45·6	+ 1·6	29	3	5	0·40	−0·31	12·6‡	19‡
	York	55	38	52·6	41·4	47·0	+ 1·9	38	2	5	0·32	−0·20	16·6	26
	Spurn Head	56	39	51·9	42·6	47·3	+ 1·8	37	0	4	0·12	?	*	*
3. ENGLAND, E.	Hillington ℳ	56	36	52·9	40·7	46·8	+ 1·2	39	4	4	0·42	−0·20	23·3	36
	Yarmouth	55	36	51·7	42·4	47·1	+ 0·9	36	0	6	0·24	−0·46	*	*
	Geldeston	59	36	53·9	41·7	47·8	+ 1·3	42	1	3	0·31	−0·31	26·1	40
	Cambridge	57	34	54·3	39·9	47·1	+ 1·2	45	6	4	0·53	+0·05	30·2	46
	Rothamsted	56	33	52·8	40·0	46·4	+ 1·2	39	6	4	0·81	+0·14	*	*
	Ingatestone	57	35	53·6	41·4	47·5	+ 1·5	41	2	4	0·71	+0·08	*	*
4. MIDLAND	Bawtry (Hesley Hall)	55	37	52·0	40·9	46·5	+ 0·9	36	3	6	0·28	−0·31	16·2‡	25‡
	Loughborough	58	39	53·9	41·6	47·8	+ 3·0	42	1	5	0·34	−0·26	20·6‡	32‡
	Cheadle ℳ	53	37	50·6	38·8	44·7	+ 0·9	32	9	5	0·46	−0·33	*	*
	Churchstoke ℳ	56	32	52·6	39·7	46·2	+ 2·0	39	6	5	0·67	−0·14	21·7	33
	Hereford ℳ	55	39	53·1	41·7	47·4	+ 2·2	39	1	5	0·49	−0·12	*	*
	Cirencester	55	34	52·4	38·3	45·4	+ 0·2	39	10	4	0·73	+0·02	24·0	36
	Oxford	56	40	53·9	41·7	47·8	+ 2·5	42	1	5	0·70	+0·12	25·5	39
5. ENGLAND, S.	London	59	38	54·9	42·1	48·5	+ 2·4	46	0	6	0·59	+0·02	21·3‡	32‡
	Strathfield Turgiss ℳ	57	37	54·6	40·2	47·4	+ 1·4	45	5	5	0·65	+0·05	*	*
	Dungeness	57	41	55·4	46·6	51·0	+ 4·0	63	0	5	0·71	−0·08	*	*
	Hastings (St. Leonard's)	57	39	54·1	45·2	49·7	+ 2·4	54	0	5	0·99	+0·19	25·5	39
	Southampton	58	40	56·1	42·9	49·5	+ 1·9	53	0	5	1·57	+0·87	27·1	41
	Hurst Castle	58	44	55·6	46·7	51·2	+ 3·1	64	0	5	0·86	+0·15	*	*
	Stowell ℳ	55	38	53·0	41·9	47·5	+ 1·3	39	0	6	1·46	?	18·4‡	28‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	58	36	51·1	40·5	45·8	+ 0·9	33	4	7	3·43†	+1·43	*	*
	Glasgow	54	34	49·5	39·4	44·5	+ 2·3	28	7	6	0·90	+0·01	7·1	11
	Ardrossan	53	38	51·3	42·1	46·7	+ 2·7	33	0	6	1·33	+0·38	*	*
	Glenlee ℳ	53	30	51·2	37·4	44·3	+ 1·4	35	13	7	2·54	+1·19	*	*
	Douglas (Isle of Man)	54	36	52·0	42·8	47·4	+ 2·4	38	0	7	1·37	+0·35	16·3	25
7. ENGLAND, N.W.	Newton Reigny (Penrith)	52	39	49·7	41·2	45·5	+ 2·2	28	2	7	1·40	+0·60	12·4	19
	Barrow-in-Furness	54	43	51·6	45·4	48·5	+ 2·7	46	0	7	0·94	+0·01	*	*
	Stonyhurst	55	41	50·9	42·7	46·8	+ 2·0	34	0	6	0·83	−0·34	12·3	19
	Blackpool ℳ	56	43	52·8	44·3	48·6	+ 2·0	46	0	6	0·80	−0·10	12·7	19
	Manchester	57	40	52·1	42·1	47·1	+ 1·9	36	0	6	0·79	−0·10	*	*
	Liverpool Obsr (Bidston)	56	43	52·1	44·3	48·2	+ 1·8	43	0	6	0·75	−0·01	*	*
	Llandudno ℳ	59	43	53·9	44·8	49·4	+ 1·5	52	0	6	0·76	−0·08	15·2	23
	Holyhead	54	45	52·4	46·1	49·3	+ 1·1	51	0	6	1·31	+0·36	*	*
8. ENGLAND, S.W.	Llandovery	57	27	53·7	37·4	45·6	− 1·4	45	13	7	1·33	+0·11	*	*
	Pembroke	55	45	53·3	47·3	50·3	+ 1·3	58	0	7	1·23	+0·34	17·6	27
	Arlington (N. Devon)	56	40	52·6	43·3	48·0	+ 1·8	42	0	6	2·23	+0·84	*	*
	Cullompton ℳ	57	35	54·5	40·8	47·6	+ 0·7	44	3	6	1·32	+0·47	16·5	25
	Falmouth	56	41	54·2	44·9	49·6	+ 0·1	53	0	6	1·55	+0·28	24·7	37
	Plymouth	57	40	55·6	44·3	50·0	+ 1·3	56	0	5	1·53	+0·68	22·2	33
	Prawle Point	58	42	54·9	46·3	50·6	+ 1·3	60	0	6	0·79	?	*	*
9. IRELAND, N.	Malin Head	53	40	50·7	42·1	46·4	+ 1·1	31	0	7	1·25	?	*	*
	Londonderry	54	38	51·1	40·4	45·8	+ 0·9	33	4	6	1·45	+0·45	*	*
	Mullaghmore	54	40	52·0	43·4	47·7	+ 2·7	40	0	7	1·25	+0·19	*	*
	Belmullet	53	38	51·6	43·7	47·7	− 0·3	40	0	7	2·21	?	*	*
	Markree Castle	54	32	51·7	38·7	45·2	+ 0·8	36	9	7	1·70	+0·86	12·3	19
	Brookeborough	53	32	50·5	37·7	44·1	+ 0·4	33	12	7	1·55	?	*	*
	Armagh	55	36	51·9	39·0	45·5	+ 1·0	37	8	4	1·10	+0·45	16·0	25
	Donaghadee	54	38	51·3	39·9	45·6	− 1·3	34	6	7	1·19	+0·44	*	*
	Edgeworthstown	53	33	51·1	36·4	43·8	− 0·5	36	16	7	0·92	+0·14	*	*
10. IRELAND, S.	Dublin	57	38	53·2	41·5	47·4	+ 1·5	40	1	5	0·38	−0·24	24·9	38
	Parsonstown	56	31	52·4	36·9	44·7	− 0·2	40	14	7	0·59	−0·09	13·3	20
	Kilkenny	55	29	52·6	36·6	44·6	− 0·7	41	15	6	0·81	+0·17	*	*
	Waterford	55	35	52·9	40·9	46·9	− 1·1	39	3	6	0·88	−0·04	*	*
	Roche's Point	55	38	54·1	42·0	48·1	− 0·5	43	0	6	1·44	+0·46	*	*
	Valencia	55	41	53·7	41·6	49·2	− 0·1	50	0	7	1·65	+0·33	10·8	16
	Killarney	58	32	53·7	39·7	46·7	− 1·1	43	6	7	1·36	?	*	*
	Foynes	56	37	52·5	43·8	48·2	+ 2·6	43	0	7	1·00	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	56	47	54·1	48·7	51·4	− 0·1	66	0	6	0·87	0·00	*	*
	Jersey	59	47	56·6	49·1	52·9	+ 2·6	76	0	7	1·85	+0·85	24·4	36

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ℒ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VI. No. 45.] *Third Series.* WEEK ENDING MONDAY, 11TH NOVEMBER, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number, TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861-80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866-85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881-85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 270.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	58	30	52·4	41·8	47·1	5 above.	37	+20	1	−17	2020	+179	572	0
	1. SCOTLAND, EAST	63	29	55·0	40·4	47·7	7 above.	47	+28	4	−17	2332	− 10	606	− 4
	2. ENGLAND, N.E.	60	31	54·0	42·8	48·5	6 above.	46	+25	0	−16	2508	− 10	499	− 27
	3. ENGLAND, EAST	61	29	54·1	40·6	47·4	4 above.	44	+20	4	−13	2365	− 29	644	+ 93
	4. MIDLAND COUNTIES	63	26	54·2	41·5	47·8	5 above.	43	+20	1	−19	2321	− 33	601	+ 40
	5. ENGLAND, SOUTH	59	29	53·8	41·9	47·9	3 above.	42	+12	0	−13	3158	+ 15	452	+ 49
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	59	29	53·2	45·2	49·2	7 above.	50	+28	0	−16	2504	+ 32	398	− 42
	7. ENGLAND, N.W.	60	31	52·7	45·3	49·0	5 above.	49	+24	0	−13	2666	+ 30	385	− 28
	8. ENGLAND, S.W.	60	30	53·4	44·4	49·0	3 above.	49	+11	0	− 6	2916	−115	327	+ 83
	9. IRELAND, NORTH	58	36	52·6	44·9	48·8	5 above.	48	+22	0	−13	2607	+ 45	320	− 64
	10. IRELAND, SOUTH	60	33	53·6	44·8	49·2	4 above.	50	+16	0	−10	2888	− 26	248	− 16
	— CHANNEL ISLANDS	59	44	54·6	47·9	51·3	2 above.	65	+15	0	0	3422	+ 91	77	− 16

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 270.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	5	8	3 less.	210	+14	36·0	−0·6	5	8	929	−241	23	− 6
	1. SCOTLAND, EAST	2	1	6 less.	175	+ 9	23·9	−4·2	15	26	1158	−173	29	− 4
	2. ENGLAND, N.E.	0	−	7 less.	160	0	22·1	−1·7	16	26	1087	−124	27	− 3
	3. ENGLAND, EAST	1	less than ½	6 less.	164	− 1	23·8	+1·2	26	42	1267	−206	32	− 5
	4. MIDLAND COUNTIES	1	less than ½	6 less.	155	− 5	24·7	−1·1	13	21	1166	−151	29	− 4
	5. ENGLAND, SOUTH	1	less than ½	7 less.	155	+ 2	23·5	−0·7	5	8	1240	−173	31	− 4
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	3	4	9 less.	179	+ 1	35·3	−5·8	6	10	1228	− 46	30	− 1
	7. ENGLAND, N.W.	5	2	7 less.	170	+ 3	27·9	−2·8	7	11	1184	− 88	29	− 3
	8. ENGLAND, S.W.	2	1	10 less.	169	− 7	30·9	−6·6	7	11	1413	−107	35	− 3
	9. IRELAND, NORTH	4	1	8 less.	201	+ 3	33·7	+2·4	2	3	1055	−136	26	− 3
	10. IRELAND, SOUTH	4	2	7 less.	180	− 4	31·7	−2·5	6	10	1300	− 64	32	− 2
	— CHANNEL ISLANDS	4	2	8 less.	179	−11	25·6	−2·9	11	16	1637	−162	41	− 4

General Remarks.

Weather has been very dull in almost all parts of the Kingdom, with a damp, close atmosphere and a good deal of fog and mist. Over the eastern and north-eastern districts, however, some fine, bright days have been experienced.

Temperature has been much above the mean, the excess having ranged from 2° in the "Channel Islands" and 3° in "England, S." and "England, S.W." to 5° in "Scotland, N." and "England, N.W.", 6° in "England, N.E.", and 7° in the east and west of Scotland. The highest of the maxima were registered (with few exceptions) either on the 7th or 8th, when the thermometer rose to 63° in "Scotland, E." and the "Midland Counties", 61° in "England, E.", and to between 58° and 60° in the other parts of the Kingdom. The lowest of the minima, which were recorded on the 5th, varied from 26° in the "Midland Counties" and from 29° to 31° in most other districts, to 36° in "Ireland, N." and 44° in the "Channel Islands." During the greater part of the week the minima were exceptionally high for the time of year.

Rainfall has been less than the mean in all districts, the fall in most places havin been scarcely appreciable.

Bright sunshine has been very deficient at nearly all stations; in "Scotland, E.," and "England, N.E.," however, the percentage of the possible amount of duration was 26; and in "England, E." 42.

Barometer and Wind.—Soon after the commencement of the period the barometer rose steadily over our Islands, and an anticyclone gradually extended over us from the southward. At the close of the week it completely covered England and Ireland, but was moving slowly away to the eastward. Westerly to North-Westerly breezes were generally experienced over the United Kingdom, but at the end of the period light North-Easterly airs set in at all our more southern stations.

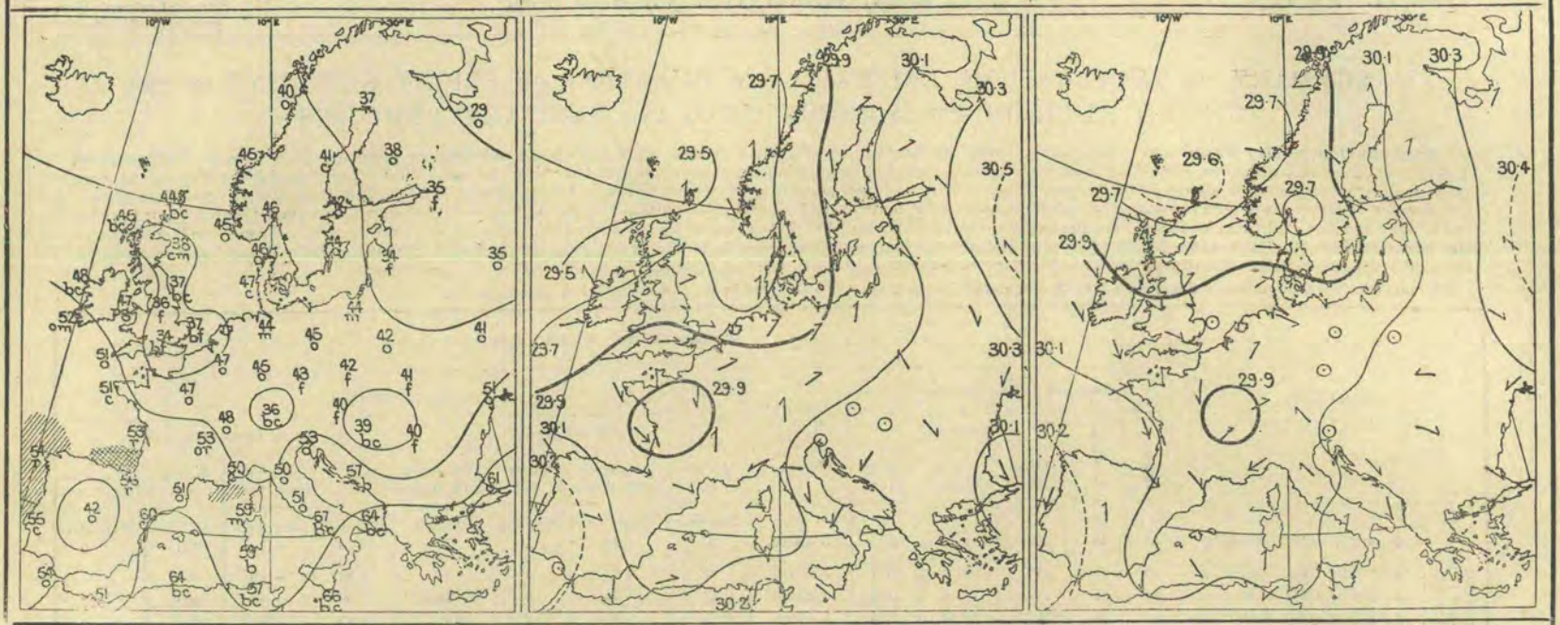
60585. 350.—11/89. Wt. 36. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 5th November.

Temperature and Weather. **Barometer and Wind.**

8 a.m. **8 a.m.** **6 p.m.**



Weather fine in the north and east of our Islands as well as in Italy and Algeria. Cloudy or overcast elsewhere, with fog in many parts of Russia and Austria, and rain in France, the north of Spain and the western parts of the United Kingdom. Rain falling during day in many parts of northern and southern Europe,—heavily in the south of France. Largest amounts reported next morning, 2·1 ins. at Biarritz and 1·6 ins. at Nice and Croisette.

Temperature highest, 55° to 65°, over the Mediterranean, the Adriatic, and the south of Italy; lowest, 32° or a little less, over central England and the north of Russia. Daily maxima a little above 50° in many parts of the United Kingdom, above 60° over southern Europe, and above 70° in Corsica and Algeria, the highest readings of all being 77° at Sanguinaire, and 75° at La Calle and Laghouat.

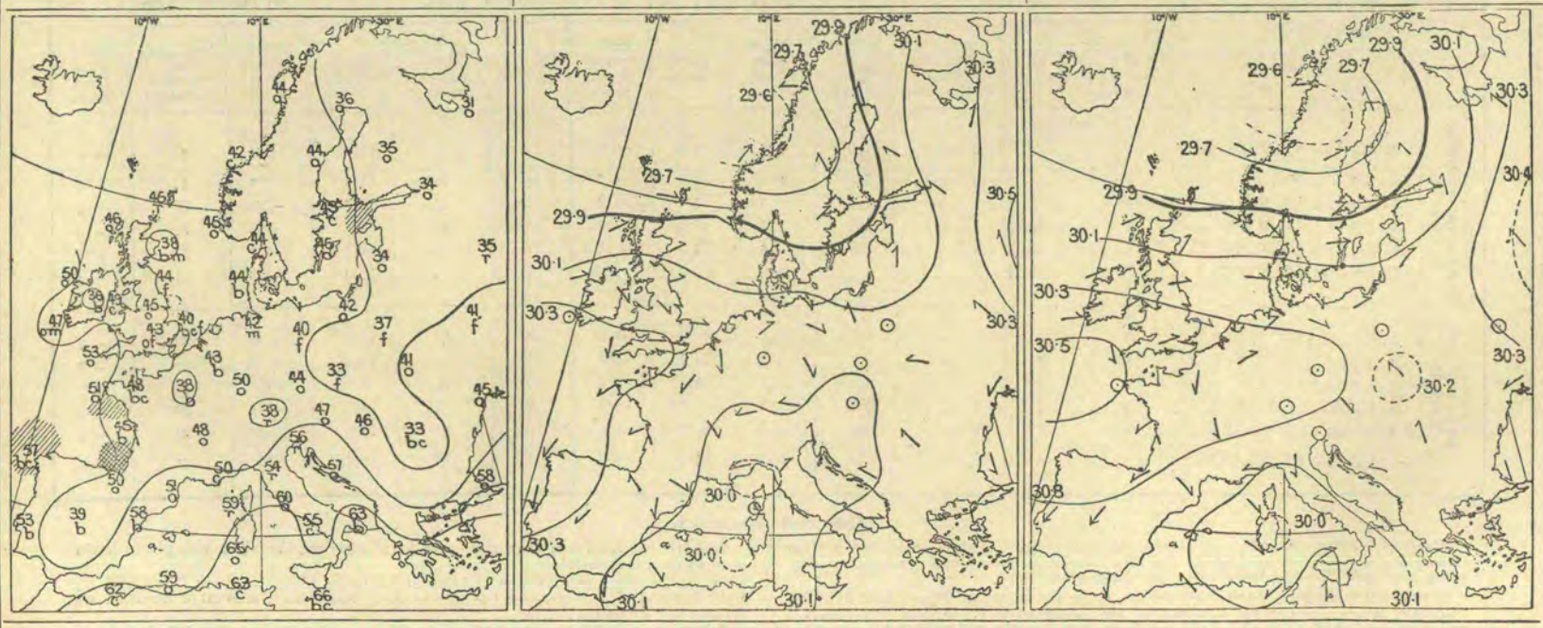
Wind light to fresh from the Southward (South-East to South-West) over the whole of northern Europe, including the northern parts of the United Kingdom, but South-Westerly or Westerly in the south of our Islands. Strong from the North-Westward over the Bay of Biscay; North-Easterly or Easterly in Italy and the south of France; Southerly or South-Easterly in Algeria. Subsequently veering to the Westward or North-Westward in all the more western and northern parts of the United Kingdom.

Barometer highest, 30·4 ins. and upwards, in a large anticyclone lying over central Russia; high, 30·2 ins. and upwards, in another area lying to the south-westward of the Iberian Peninsula. Lowest, 29·5 ins. and less, in a large area lying to the north-westward and northward of Scotland, and 29·9 ins. and less, in a large shallow depression lying over France. Low pressure systems subsequently moving eastwards, and barometer rising on our extreme western coasts.

Wednesday, 6th November.

Temperature and Weather. **Barometer and Wind.**

8 a.m. **8 a.m.** **6 p.m.**



Weather fair over the greater part of western and southern Europe, but dull and unsettled in the more northern, central, and eastern countries, fog prevailing over England, Germany, and some parts of Russia, rain falling at a few of the Russian, Austrian, and Algerian stations. A little rain falling later in the west and extreme north of our Islands, and larger quantities in the north of Italy and south of Austria, the heaviest amounts being 2·4 ins. at Rome and 1·6 ins. at Trieste.

Temperature highest, 60° and upwards, over the central and southern parts of the Mediterranean; lowest, 40° or less, over Poland, northern and central Russia, the east of Scotland, and the central parts of Ireland, France, and Spain. Daily maxima exceeding 55° in many parts of the United Kingdom. Thermometer rising above 60° over the whole of southern Europe, and above 70° in Corsica, Sicily, and Algeria, the highest readings of all being 77° at Sanguinaire, and 73° at La Calle, Biskra, and Laghouat.

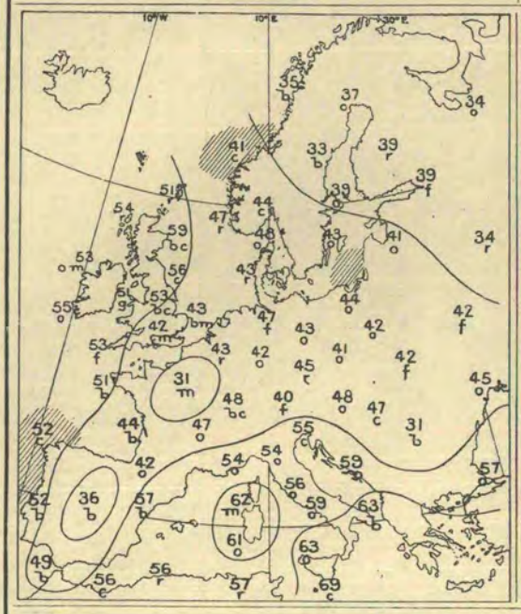
Wind moderate from the South-Westward over the northern parts of our Islands and the eastern shores of the North Sea, Southerly or South-Easterly over Sweden, the Baltic Provinces, and Northern Russia. Light from the North-Westward or Northward over the south of our Islands, from the North-Eastward, over Spain and the Bay of Biscay, and from the eastward in the south of France. Variable over Austria, southern Italy, and Algeria.

Barometer highest, 30·4 ins. and upwards, in a large anticyclone lying over Russia, 30·3 ins. and upwards, in another large system lying over the southern parts of the United Kingdom, the Bay of Biscay, and the western parts of the Iberian Peninsula. Lowest, 29·6 ins. and less in a large depression lying off the west of Norway, 30·0 ins. and less in small shallow disturbances lying, respectively, over the Gulf of Genoa and off the south-west coast of Sardinia. Depression off Norwegian coasts subsequently moving eastwards.

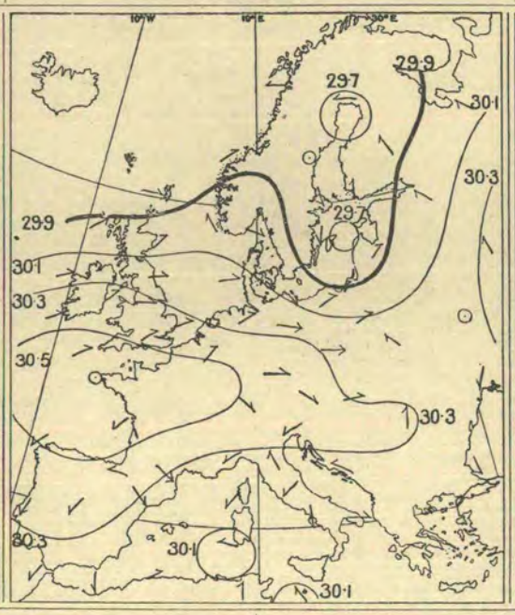
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 7th November.

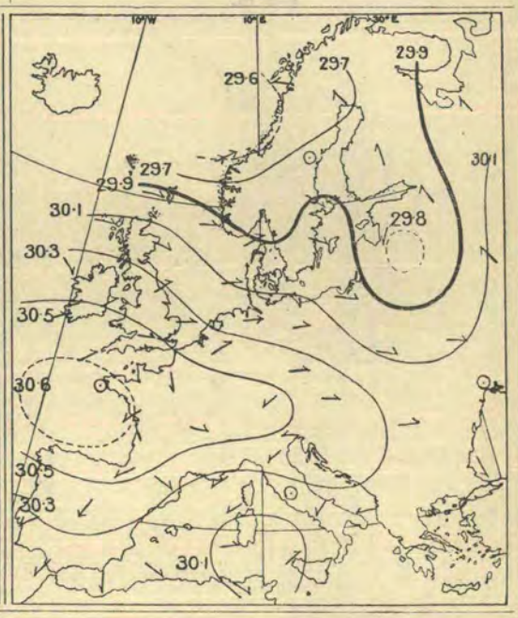
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fair over the greater part of western Europe, and also in Scandinavia, but foggy at some of our own southern and south-western stations; cloudy or overcast elsewhere, with fog in some parts of Russia, and rain at a few of the Danish, German, and Russian stations, as well as in Algeria. Snow falling later at Archangel, and heavy rain in Sardinia and Sicily, the largest amount being 3·0 ins. at Cagliari. Thunderstorm occurring at Palermo in evening.

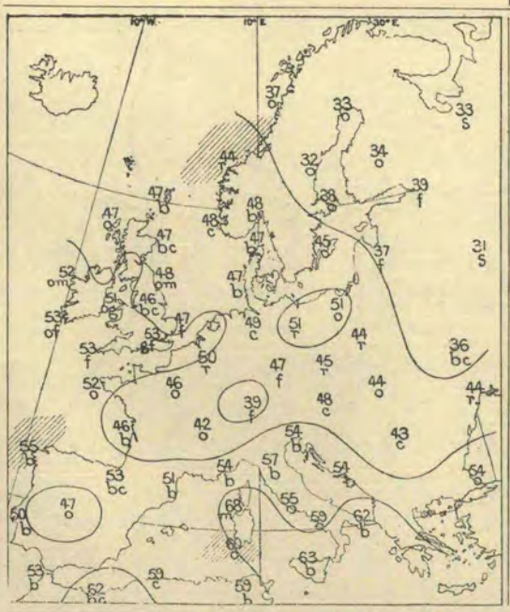
Temperature highest, 60° and upwards, over the south of Italy and the adjacent portions of the Mediterranean, 55° and upwards, in the north and east of Scotland and the north-east of England. Lowest, 32° or less, over the south of Austria and some parts of central France; 40° or less, over Sweden, the north of Norway, and the northern and central parts of Russia. Daily maxima over our Islands very high for time of year, the thermometer rising to 60° at Shields and Cambridge, and 62° at Aberdeen and Loughboro'.

Wind light to fresh from the South-Westward or Westward over our Islands, the Netherlands, North Germany, and the southern shores of the Baltic; Southerly over central and northern Russia; Northerly in the south of Scandinavia. Light or moderate from the Eastward or North-Eastward over Spain, Italy, and the west and south of France; variable over Algeria and eastern Europe. Subsequently veering to the Northward of west on some parts of our north and north-west coasts.

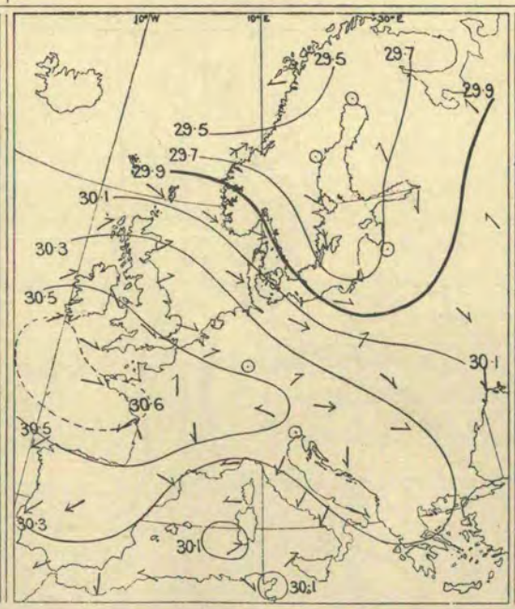
Barometer highest, 30·5 ins. and upwards, in a large anticyclone lying over the Bay of Biscay, the south of England, and the greater part of France, 30·3 ins. and upwards in another large area lying over central Russia. Lowest, 29·7 ins. and less, in two small depressions lying over the northern parts of the Gulf of Bothnia and of the Baltic; low, 29·8 ins. and less, in a large area lying to the northward of the British Islands. Depressions all moving eastward later, and barometer rising over western Europe.

Friday, 8th November.

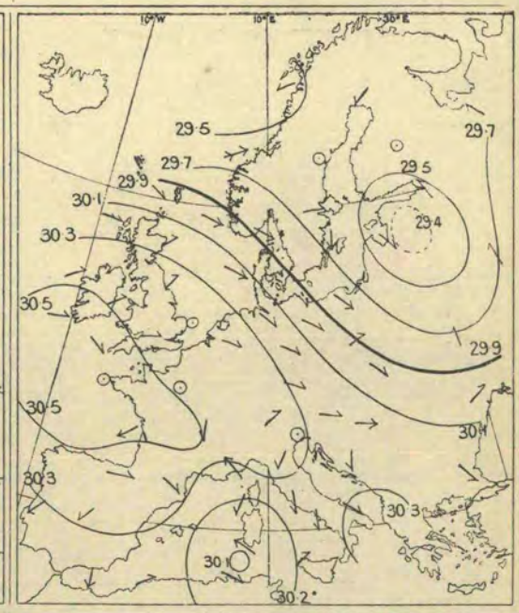
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine over the greater part of western and southern Europe, but foggy over the southern parts of our Islands, and dull on our extreme north and north-west coasts. Dull in all the more northern, eastern, and central countries, with fog over south Germany and the Gulf of Finland, and rain over Belgium, central Germany, and the south of Russia. Snow falling at Archangel and Moscow. Rain falling later in the north of Scotland and west of Norway, and snow at Uleaborg.

Temperature highest, 55° to 65°, over the central and southern parts of the Mediterranean; lowest, 35° or less, over the north of Sweden and the northern and central parts of Russia. Daily maxima over our Islands somewhat lower than those of previous day, but thermometer rising above 55° in many places, and reaching 61° at Cambridge. Maxima exceeding 70° in Algeria, Corsica, and Sicily, the highest reading of all being 77° at Sanguinaire.

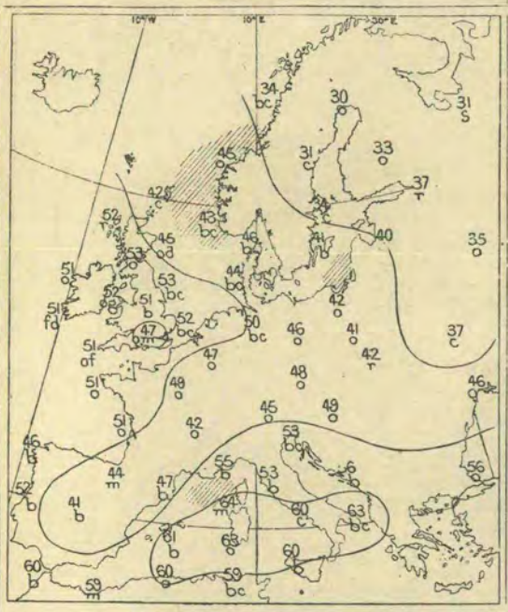
Wind South-Westerly in the northern parts of the United Kingdom and the west of Norway, with a strong gale at Christiansund. Westerly or North-Westerly over the south of our Islands, the eastern shores of the North Sea, the Netherlands, Germany, and Austria. Light from the Southward or South-Eastward in Russia, and from the North-Eastward in Italy, Spain, and the south of France. Subsequently veering to the Westward in the north of Scotland.

Barometer highest, 30·4 ins. to 30·6 ins. and upwards, in an anticyclone covering the whole of Ireland, England, the Bay of Biscay, south Germany, and the north of Spain. Lowest, 29·5 ins. and less, in a large depression lying off the north-west of Norway; "hollow," with readings of 29·6 ins. and less, extending southwards over the Gulf of Bothnia and the northern parts of the Baltic. Well defined disturbance appearing, in the "hollow," later over the Baltic provinces.

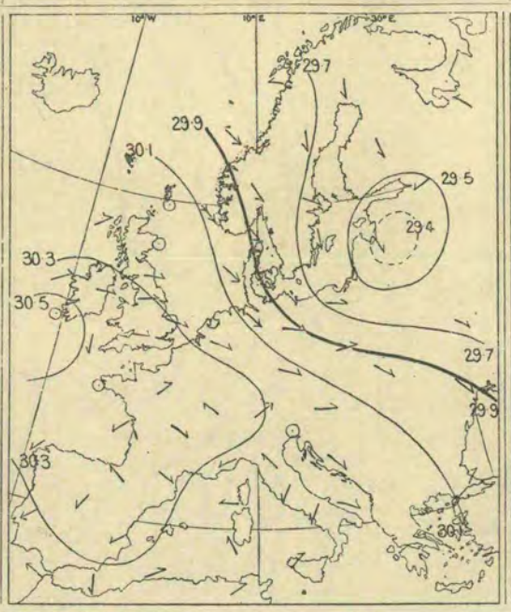
11.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 9th November.

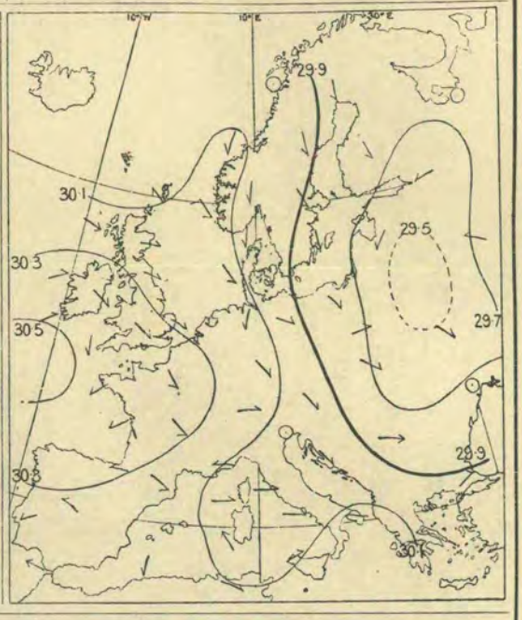
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine over many parts of the Mediterranean and Spain, as well as on the eastern shores of the North Sea, and at Wisby. Unsettled and changeable elsewhere, with fine rain over the northern and western parts of the British Islands, and in some parts of Russia and Austria; snow at Archangel. Fall of rain very slight at our own stations, but considerable at several of the Austrian stations and in Sicily.

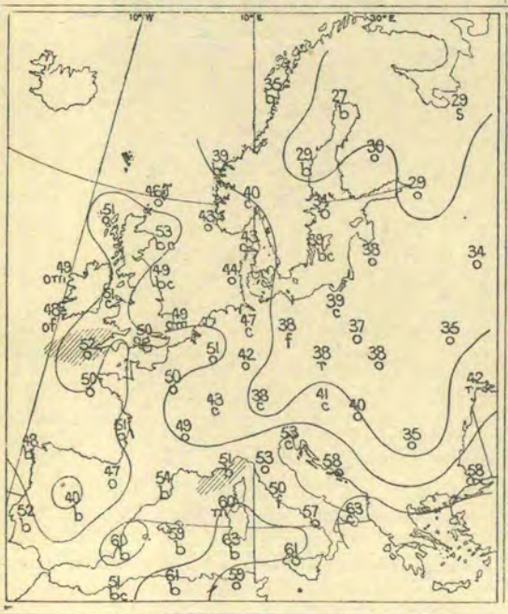
Temperature high over western Europe, much lower in the east; exceeding 60° at several of the Mediterranean stations, and exceeding 50° on most parts of the French, Dutch, British, and Irish coasts, where also the air was damp and close. Daily maxima rising to between 55° and 60° over England and the east of Scotland, and exceeding 70° in some parts of the Spanish Peninsula and on the southern shores of the Mediterranean, the highest of all being 75° at La Calle (Algeria).

Wind moderate to light from between South-West and North-West over the United Kingdom. Strong from North-West on the eastern shores of the North Sea and over Germany, more Northerly over the Baltic. North-Easterly, light, over the Bay of Biscay, Spain, and the northern shores of the Mediterranean; Westerly and South-Westerly over Algeria and Sicily. Little change over our Islands later, but wind becoming more Northerly over the Baltic, Germany, and Austria, and moderating in force.

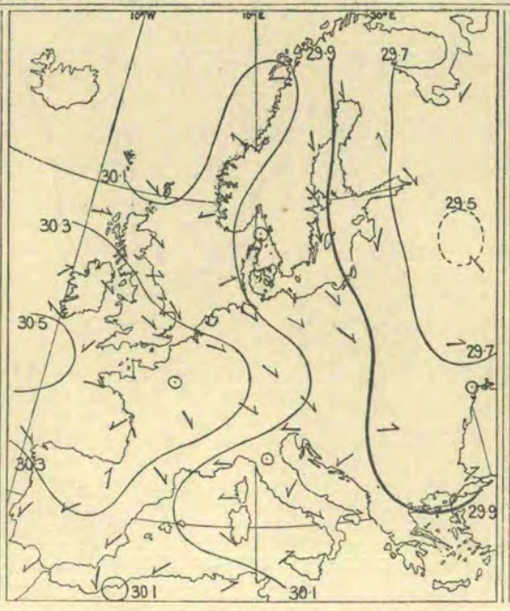
Barometer highest, 30·3 ins. to 30·5 ins. and upwards, over western Europe and the Bay of Biscay, lowest, 29·4 ins. and less, in a depression over the Baltic Provinces, and below, 30·2 ins., over the Mediterranean as well as over the south-west of Spain and off our own north-western coasts. Russian depression moving south-eastwards later and partially filling up; anticyclone in the west decreasing very slightly in intensity.

Sunday, 10th November.

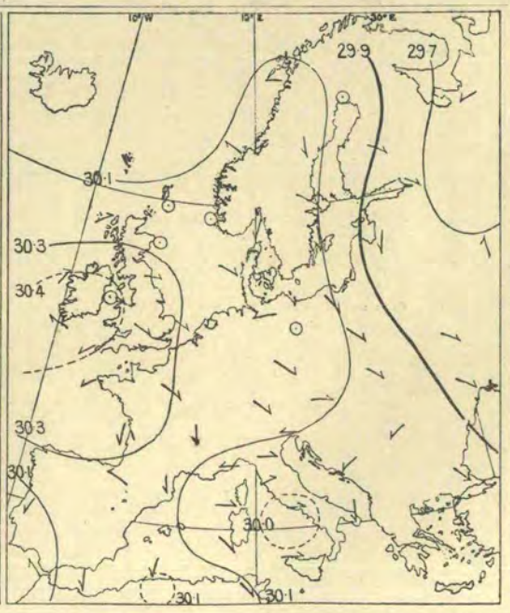
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather improving a little over southern Italy, but changing very little elsewhere; dull and unsettled over northern and eastern Europe, with occasional rain in a few localities; mild and fair in the north-west, but with wet fogs or misty drizzle in some places. Rainfall slight, except in some parts of south Germany, Austria, and European Turkey.

Temperature little changed as a whole. Highest morning readings, 60° and more, at the more southern and eastern of the Mediterranean stations, and exceeding 50° over western Europe and the British Islands; lowest, less than 30°, over northern Europe, and very little above that value over Russia and Poland, with the eastern parts of Germany and Austria; as low as 40° at Madrid. Daily maxima between 50° and 55° over the United Kingdom as a whole, but exceeding 60° over Italy and the southern parts of France, and exceeding 70° at Palermo and in several parts of Algeria.

Wind light to moderate everywhere; Westerly to North-Westerly over the British Islands, Northerly to North-Easterly over France and the Bay of Biscay, and North-Easterly to Easterly over Spain. Moderate to fresh from the Northward over the Baltic, light North-Westerly over Germany, and Westerly in the South of Russia. An Easterly breeze reported on the Norwegian coast. Hardly any change later beyond a decrease of wind-force at the Baltic stations.

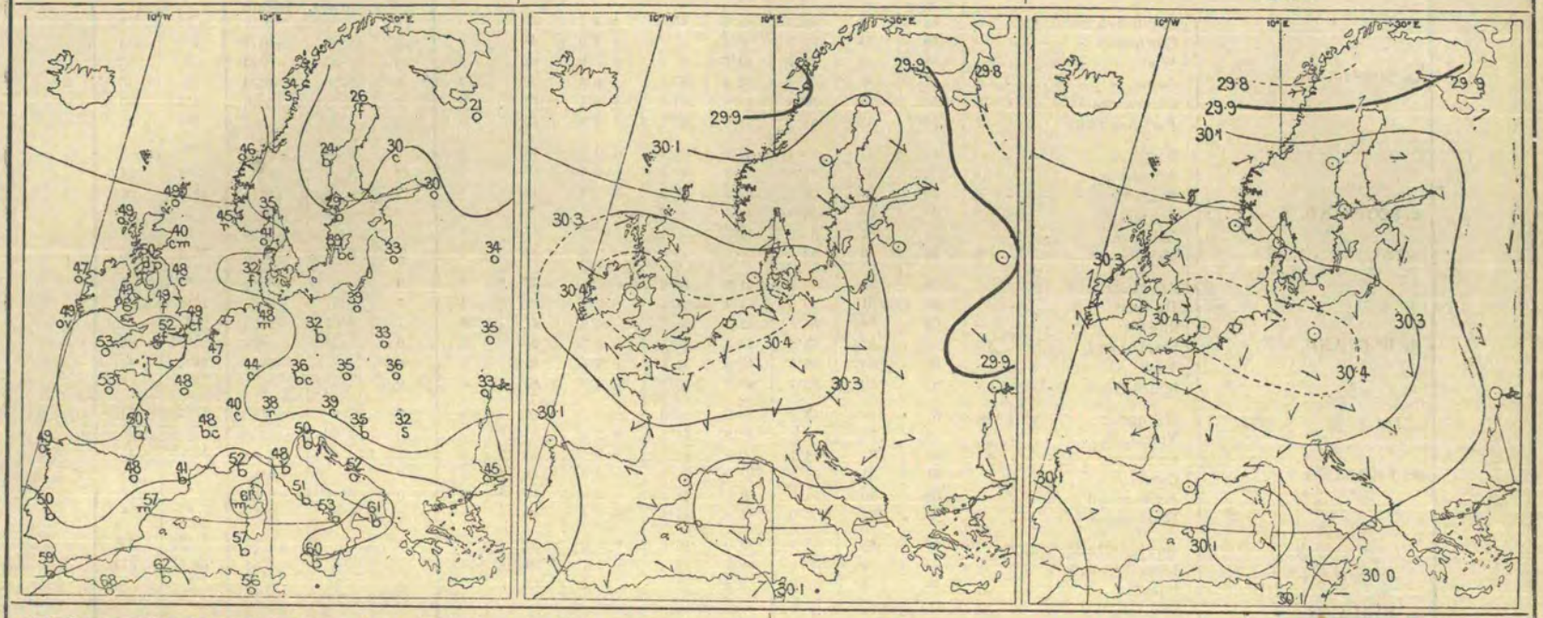
Barometer still highest (30·3 ins. to 30·5 ins.) over western Europe and the neighbouring parts of the Atlantic; lowest, 29·6 ins. and less, over central Russia, rather below 30·0 ins. over the northern part of the Mediterranean, and below 30·1 ins. in the neighbourhood of the Shetland Islands. Russian depression moving northwards, and filling up later; little change elsewhere.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 11th November.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather very little disturbed anywhere—fine and bright over the Mediterranean, the south and west of Spain, and some parts of Austria and Germany; dull and gloomy elsewhere, with fog over several parts of the United Kingdom, rain at Munich, and snow at Hermanstadt. Very slight rain later in several of the western and north-western parts of the United Kingdom, as well as at a few Russian and Italian stations; wet fog in the south-east of England.

Temperature beginning to fall over western and south-eastern Europe. Still above 60° on the southern and south-eastern shores of the Mediterranean, and above 50° in the west of France and on the shores of the English Channel; lower (below 50°) over the major part of the British Islands, below 40° over northern, eastern, and central Europe, and below 30° in the north of Russia. Daily maxima still rather above 50° over the British Islands, exceeding 60° in the south of France and in Italy; night cold over Great Britain.

Wind South-Easterly on our western coasts, and very light and variable over England, the east of Scotland, and the North Sea, remaining Northerly to North-Westerly over the Baltic, Germany, and Austria, and North-Easterly to Easterly over France, the northern parts of the Mediterranean, the Bay of Biscay, and Spain.. The Northerly wind at the Baltic stations dying down later, but hardly any change reported over our Islands and western Europe.

Barometer falling in extreme west, rising elsewhere. The anticyclone in the west moving steadily eastwards, the Russian and Mediterranean depressions disappearing. The anticyclone reaching the Netherlands and north Germany by the evening, and decreasing somewhat in intensity. No other change of importance.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the earlier part of this week pressure was highest in an anticyclone covering France, the Bay of Biscay, and the southern and south-western parts of our Islands; lowest in depressions which advanced over northern Europe from the Atlantic, and subsequently spread southwards over Russia. The weather over the western and north-western countries was very quiet and mild (maximum temperatures over the British Isles varying from 55° to 63°), the wind was South-Westerly to North-Westerly, and wet fogs occurred very frequently, while at other times the sky was clear. Over southern Europe large quantities of rain fell. On the 10th the anticyclone began to move eastwards, South-Easterly winds set in on our western coasts, temperature fell over the United Kingdom, and the air became drier, while rainfall decreased generally.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ⚓	52	38	50·4	41·3	45·9	+ 3·2	30	2	6	1·18	+0·19	*	*
	Stornoway	54	34	52·9	42·7	47·8	+ 5·5	41	0	6	0·37	−0·72	7·9	14
	Wick	58	32	53·7	40·7	47·2	+ 5·2	42	4	5	0·35	−0·33	*	*
	Lairg ⚓	57	30	53·4	41·4	47·4	+ 6·4	40	2	5	0·58	−0·33	*	*
	Glencarron ⚓	53	34	50·3	43·0	46·7	+ 6·1	33	0	6	2·08†	−0·16	0·0	0
	Fort Augustus ⚓	57	33	53·5	41·9	47·7	+ 5·9	40	0	4	0·20†	?	6·2	11
1. SCOTLAND, E.	Nairn	59	31	55·4	40·7	48·1	+ 6·7	48	4	3	0·30	−0·23	*	*
	Aberdeen	62	32	54·9	39·6	47·3	+ 5·5	47	7	2	0·18	−0·56	15·9	27
	Braemar ⚓	60	29	53·1	37·4	45·3	+ 7·3	42	13	2	0·11	−0·79	14·7‡	25‡
	Ochtertyre ⚓	63	34	56·9	40·4	48·7	+ 7·6	54	4	2	0·02	−0·98	*	*
	Leith	59	31	56·0	44·1	50·1	+ 8·2	57	0	0	—	−0·48	*	*
	Marchmont ⚓	59	30	53·7	40·0	46·9	+ 7·9	43	6	1	0·02	−0·78	15·5	26
2. ENGLAND, N.E.	Alnwick Castle	59	39	55·3	45·0	50·2	+ 8·1	57	0	0	—	−0·74	*	*
	Durham	59	31	53·6	41·4	47·5	+ 5·5	41	2	1	0·01	−0·68	16·9	28
	Shields	60	34	54·9	42·4	48·7	+ 5·6	47	0	1	0·01	−0·59	*	*
	Scarborough ⚓	59	34	53·6	43·3	48·5	+ 5·7	46	0	0	—	−0·71	15·8‡	25‡
	York	60	33	54·6	40·9	47·8	+ 4·8	45	3	0	—	−0·51	15·2	25
	Spurn Head	57	39	52·1	43·9	48·0	+ 4·2	42	0	0	—	?	*	*
3. ENGLAND, E.	Hillington ⚓	57	29	53·9	39·3	46·6	+ 2·8	44	8	0	—	−0·62	27·5	44
	Yarmouth	56	30	52·0	40·9	46·5	+ 2·4	36	3	3	0·06	−0·66	*	*
	Geldeston	59	31	54·7	40·7	47·7	+ 3·1	45	4	2	0·02	−0·62	24·9	40
	Cambridge	61	31	56·1	40·0	48·1	+ 4·6	51	6	0	—	−0·49	26·1	41
	Rothamsted	60	30	54·0	40·1	47·1	+ 4·3	44	5	0	0·01§	−0·63	*	*
	Ingatestone	59	?32	53·9	?42·4	?48·2	?+ 4·4	?43	0	1	0·01	−0·59	*	*
4. MIDLAND	Bawtry (Hesley Hall)	63	37	54·9	43·0	49·0	+ 5·3	49	0	0	—	−0·52	18·2‡	29‡
	Loughborough	62	30	55·9	40·7	48·3	+ 5·7	50	4	0	—	−0·55	19·4‡	31‡
	Cheadle ⚓	59	33	52·0	43·6	47·8	+ 5·6	41	0	2	0·02	−0·73	*	*
	Churchstoke ⚓													
	Hereford ⚓	62	29	55·1	40·8	48·0	+ 4·6	47	3	0	0·01§	−0·57	*	*
	Cirencester	58	26	53·4	39·3	46·4	+ 3·4	42	8	1	0·01	−0·70	5·5	9
	Oxford	59	33	53·6	41·3	47·5	+ 4·5	41	2	0	0·01§	−0·55	8·9	14
5. ENGLAND, S.	London	58	32	54·0	41·0	47·5	+ 3·5	43	3	0	—	−0·51	4·7‡	7‡
	Strathfield Turgiss ⚓	57	29	53·5	40·0	46·8	+ 3·0	42	6	1	0·02	−0·57	*	*
	Dungeness	58	32	54·1	40·6	47·4	+ 1·9	44	4	1	0·01	−0·80	*	*
	Hastings (St. Leonard's)	57	40	53·4	43·8	48·6	+ 3·2	46	0	2	0·02	−0·76	12·4	19
	Southampton	58	33	54·2	42·4	48·3	+ 3·0	44	0	0	—	−0·69	2·3	4
	Hurst Castle	59	35	55·4	44·0	49·7	+ 3·4	54	0	1	0·01	−0·69	*	*
	Stowell ⚓	55	29	52·2	41·6	46·9	+ 2·4	36	1	0	0·01§	?	0·3‡	0‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	59	37	54·6	45·8	50·2	+ 7·1	57	0	7	1·65†	−0·50	*	*
	Glasgow	55	36	52·3	44·9	48·6	+ 7·8	46	0	2	0·12	−0·76	2·9	5
	Ardrossan	55	43	52·6	47·7	50·2	+ 7·7	57	0	3	0·13	−0·79	*	*
	Glenlee ⚓	58	29	53·5	42·1	47·8	+ 7·1	41	0	5	0·11	−1·27	*	*
	Douglas (Isle of Man)	55	39	53·1	45·6	49·4	+ 5·8	52	0	0	0·01§	−1·03	9·1	15
7. ENGLAND, N.W.	Newton Reigny (Penrith)	58	31	52·9	42·0	47·5	+ 5·5	39	0	3	0·04	−0·76	7·8	13
	Barrow-in-Furness	53	40	51·7	47·1	49·4	+ 4·9	52	0	6	0·26	−0·65	*	*
	Stonyhurst	55	36	51·2	44·0	47·6	+ 4·6	39	0	6	0·53	−0·57	5·7	9
	Blackpool ⚓	54	38	51·9	45·0	48·5	+ 3·3	46	0	6	0·14	−0·69	5·0	8
	Manchester	58	33	53·4	44·1	48·8	+ 5·1	48	0	5	0·15	−0·72	*	*
	Liverpool Obsr (Bidston)	59	35	52·9	44·0	48·5	+ 3·5	46	0	3	0·14	−0·56	*	*
	Llandudno ⚓	60	38	54·1	47·4	50·8	+ 4·5	62	0	3	0·03	−0·78	8·1	13
	Holyhead	55	46	53·6	48·7	51·2	+ 4·2	64	0	5	0·21	−0·69	*	*
8. ENGLAND, S.W.	Llandovery	60	33	54·3	44·0	49·2	+ 4·2	50	0	2	0·18	−1·00	*	*
	Pembroke	54	44	53·0	48·9	51·0	+ 4·2	63	0	4	0·18	−0·74	7·9	13
	Arlington (N. Devon)	54	31	50·7	42·4	46·6	+ 2·6	32	0	4	0·20	−1·20	*	*
	Cullompton ⚓	59	30	54·1	41·3	47·7	+ 2·5	43	2	1	0·01	−0·79	5·4	8
	Falmouth	57	41	53·9	46·2	50·1	+ 2·5	57	0	2	0·19	−1·09	11·0	17
	Plymouth	57	37	54·1	43·3	48·7	+ 1·7	47	0	1	0·04	−0·78	3·7	6
	Prawle Point	60	39	54·0	44·9	49·5	+ 2·1	53	0	2	0·05	?	*	*
9. IRELAND, N.	Malin Head	55	42	52·1	46·3	49·2	+ 5·1	50	0	5	0·13	?	*	*
	Londonderry	56	41	52·9	44·5	48·7	+ 5·2	47	0	1	0·05	−0·96	*	*
	Mullaghmore	56	40	53·1	46·4	49·8	+ 5·8	55	0	5	0·18	−0·94	*	*
	Belmullet	53	43	52·6	47·0	49·8	+ 3·1	55	0	7	0·27	?	*	*
	Markree Castle	56	38	52·6	43·9	48·3	+ 5·2	44	0	5	0·09	−0·73	1·6	3
	Brookeborough	55	38	51·7	44·0	47·9	+ 5·4	41	0	3	0·06	?	*	*
	Armagh	56	40	52·1	44·4	48·3	+ 5·1	44	0	3	0·05	−0·60	2·0	3
	Donaghadee	58	38	54·4	44·0	49·2	+ 4·2	50		2	0·03	−0·71	*	*
	Edgeworthstown	55	36	52·0	43·9	48·0	+ 5·0	42	0	5	0·07	−0·75	*	*
10. IRELAND, S.	Dublin	60	42	54·7	47·0	50·9	+ 6·1	62	0	1	0·05	−0·53	9·6	15
	Parsonstown	57	34	52·9	42·1	47·5	+ 4·2	39	0	6	0·10	−0·58	1·8	3
	Kilkenny	57	33	53·3	41·3	47·3	+ 3·5	40	2	3	0·09	−0·52	*	*
	Waterford	56	35	53·4	41·9	47·7	+ 1·2	40	0	2	0·09	−0·82	*	*
	Roche's Point	55	41	53·4	46·0	49·7	+ 2·7	54	0	5	0·15	−0·87	*	*
	Valencia	55	40	53·3	45·9	49·6	+ 1·5	53	0	6	0·45	−0·85	6·9	11
	Killarney	57	35	54·2	46·2	50·2	+ 3·5	57	0	2	0·05	?	*	*
	Foynes	57	41	53·2	47·7	50·5	+ 6·2	60	0	6	0·23	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	55	47	53·7	48·7	51·2	+ 1·1	64	0	4	0·23	−0·65	*	*
	Jersey	59	44	55·4	47·1	51·3	+ 3·1	65	0	3	0·07	−0·92	10·6	16

Stations marked ⚓ are in connection with the Royal Meteorological Society, and those marked ⚓ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VI. No. 46.] *Third Series.* WEEK ENDING MONDAY, 18TH NOVEMBER, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 276.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	55	25	50·5	39·6	45·1	5 above.	32	+19	7	−15	2052	+200	579	− 13
	1. SCOTLAND, EAST	57	25	49·8	35·6	42·7	4 above.	32	+17	18	− 7	2366 *	+ 11	624	− 12
	2. ENGLAND, N.E.	55	27	49·3	39·2	44·2	3 above.	27	+10	8	−12	2535	+ 2	507	− 37
	3. ENGLAND, EAST	55	28	50·7	40·1	45·4	4 above.	32	+12	5	−15	2897	− 12	650 *	+ 77
	4. MIDLAND COUNTIES	57	26	50·4	40·3	45·4	4 above.	31	+12	5	−20	2852	− 17	607 *	+ 21
	5. ENGLAND, SOUTH	60	29	52·8	44·7	48·8	6 above.	48	+23	0	−16	3206	+ 42	452	+ 31
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	58	27	51·3	40·9	46·1	5 above.	33	+14	3	−16	2536 *	+ 49	401	− 59
	7. ENGLAND, N.W.	59	27	50·9	42·0	46·5	3 above.	32	+11	0	−16	2698	+ 43	385	− 42
	8. ENGLAND, S.W.	57	32	53·3	47·6	50·5	6 above.	60	+27	0	− 8	2976	− 87	327	+ 75
	9. IRELAND NORTH	57	29	52·1	42·5	47·3	5 above.	37	+15	0	−16	2644	+ 61	320	− 80
	10. IRELAND, SOUTH	59	35	53·7	45·5	49·7	5 above.	53	+22	0	−13	2941	− 4	248	− 27
	— CHANNEL ISLANDS	58	43	53·7	48·7	51·2	4 above.	64	+19	0	0	3486	+114	77	− 17

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 276.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	4	3	6 less.	214	+13	36·1 *	−1·5	5	9	934	−245	23	− 5
	1. SCOTLAND, EAST	2	1	7 less.	177	+ 7	24·0	−4·8	19	35	1177	−164	29	− 3
	2. ENGLAND, N.E.	3	2	5 less.	163	− 1	22·3	−2·3	5	8	1092	−127	27	− 3
	3. ENGLAND, EAST	2	1	5 less.	166	− 3	23·9	+0·7	17	28	1284	−202	32	− 5
	4. MIDLAND COUNTIES	2	1	5 less.	157	− 7	24·8	−1·6	5	8	1172 *	−158	29	− 4
	5. ENGLAND, SOUTH	1	1	6 less.	156	− 1	23·6	−1·2	9	14	1249	−178	31	− 4
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	3	3	8 less.	182	0	35·6	−6·6	8	14	1236	− 48	30	− 1
	7. ENGLAND, N.W.	4	4	4 less.	174	+ 4	28·3	−3·3	9	15	1193	− 90	29	− 2
	8. ENGLAND, S.W.	3	1	9 less.	172	− 8	31·0	−7·6	1	2	1414	−121	35	− 3
	9. IRELAND, NORTH	2	1	7 less.	203	+ 1	33·8	+1·7	9	15	1064	−143	26	− 3
	10. IRELAND, SOUTH	3	3	6 less.	183	− 5	32·0	−3·0	10	16	1310	− 70	32	− 2
	— CHANNEL ISLANDS	4	3	7 less.	183	−12	25·9	−3·5	14	22	1651	−170	41	− 4

General Remarks.

Weather has continued in a very dull, damp, and misty condition generally. In most parts of the Kingdom slight drizzling rain has at times prevailed. In the eastern parts of England and Scotland, however, the sky has been less cloudy than elsewhere.

Temperature has continued considerably above the mean in all districts, the excess having ranged from 3° in "England, N.E." and "England, N.W." to 5° in Ireland and the east and west of Scotland, and to 6° in "England, S." and "England, S.W." The highest of the maxima, which were registered on the 15th, varied from 55° over some of our eastern and northern districts to 59° in "Ireland, S." and "England, N.W." and to 60° in "England, S." The lowest of the minima, which were recorded on the 13th over England and on the 17th over Ireland and Scotland, ranged from 25° in the north and east of Scotland to 35° in "Ireland, S." and to 43° in the "Channel Islands".

Rainfall has again been much less than the mean in all districts.

Bright sunshine has continued very deficient in nearly all parts of the Kingdom. In "Scotland, E.", however, 35 °/₀ of the possible amount of duration has been recorded, and in "England, E." 28 °/₀.

Barometer and Wind.—During the whole of the period barometric pressure continued high, and the changes were generally slight. During the 15th, however, the mercury fell rather decidedly in the west and north, but on the following day it rose again quickly, and a new anticyclone advanced over us from the westward. Light winds from between South and South-West were most prevalent over the United Kingdom, but towards the end of the period they became rather more variable, and in the south and south-east light airs from the Eastward were experienced.

* This value has been altered owing to the receipt of further information.

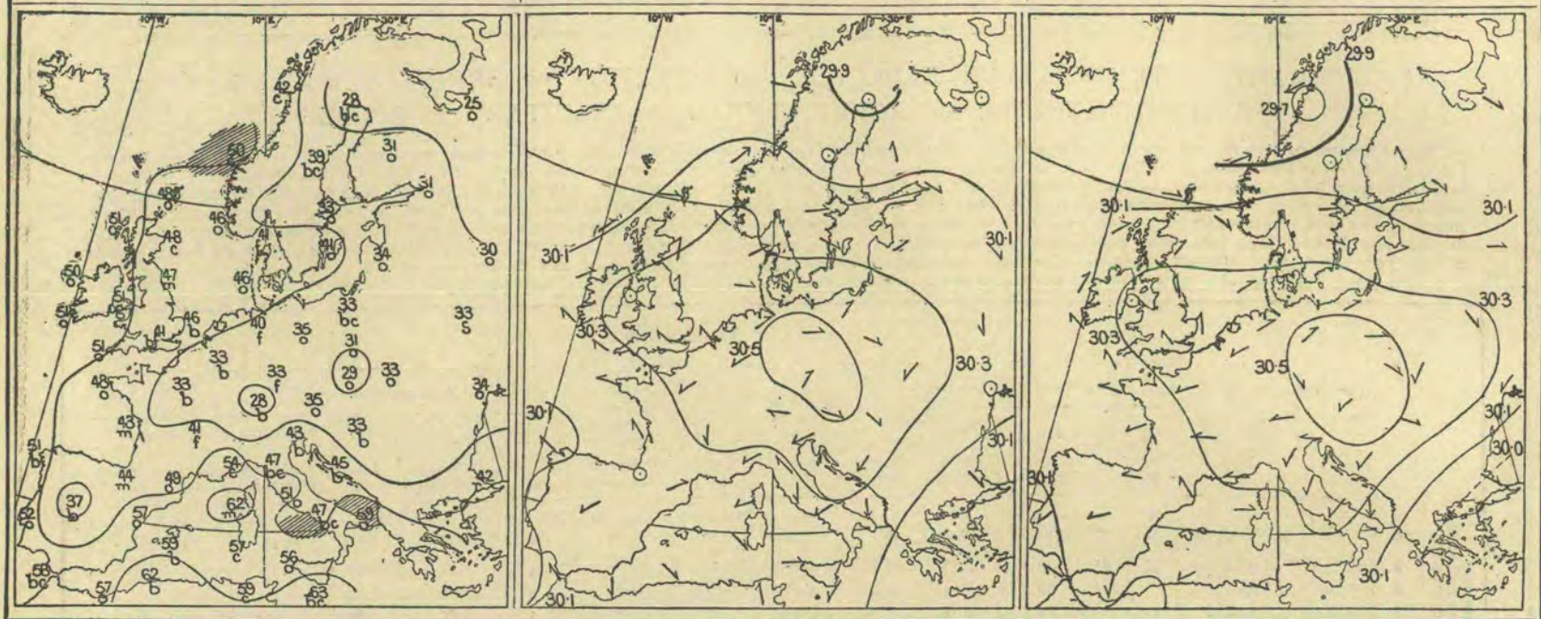
60668. 350.—11/89. Wt. 36. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 12th November.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine generally over southern Europe and France, as well as over a considerable portion of the British Islands and North Sea, with local fogs in the latter regions, dull and gloomy elsewhere, with rain at Constantinople, snow at Kiev, and fog at Kharkov. Heavy rain later both in Lapland and at Constantinople; remaining fair elsewhere, but dull and foggy in many places.

Temperature becoming lower over western Europe than of late; several degrees below the freezing point in Russia and south Germany, and very little above that value in many parts of France; still high on the Atlantic shores of Spain, the British Islands, and Norway. Daily maxima over our Islands exceeding 50°, except over the south-eastern counties, where they were lower, and frost occurred at night. Maxima recorded as high as 70° or more in several parts of Spain and Algeria, but not reaching 60° over Italy.

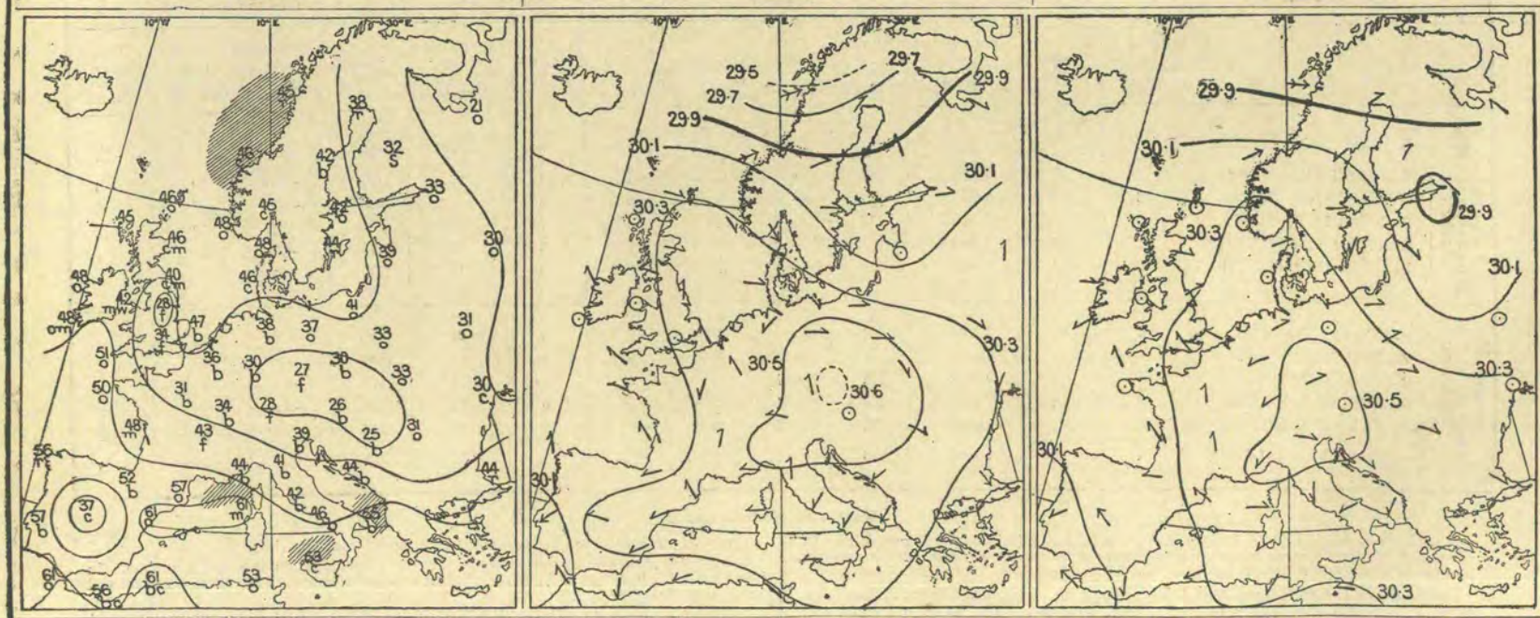
Wind chiefly North-Easterly to Easterly over southern Europe, and strong in places; Easterly over the Bay of Biscay and Channel, South-Easterly to Southerly over the United Kingdom, South-Westerly in the west of Norway (a gale at Christiansund), and North-westerly over the Baltic. Wind subsequently moderating over southern Europe; no other, change of importance.

Barometer highest, 30·3 ins. to 30·5 ins. in large anticyclone lying over Central Europe, moderate gradients on all sides of that region. Lowest readings, 29·9 ins. and less, recorded over Lapland and Northern Russia. Depression approaching north of Norway from the Atlantic, and causing decided fall of barometer in that region.

Wednesday, 13th November.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather still fine over the Mediterranean, south-western Europe, and France, very foggy over Great Britain, dull and unsettled to the eastward of the North Sea, with rain in several places; snow in Finland. Rain subsequently in Spain and some of the southern parts of France, large quantities at Constantinople, and a little at some of our own south-western stations; wet fogs in many parts of the United Kingdom.

Temperature fallen decidedly over the British Isles, France, Italy, and Austria; risen over the Baltic. Morning readings now below the freezing point at many of our own inland stations, as well as in most inland parts of the Continent, but still high for time of year at Atlantic ports, and exceeding 60° at some of the Algerian stations. Daily maxima again exceeding 70° in some parts of Algeria, but not over Europe; frost disappearing completely over England during day.

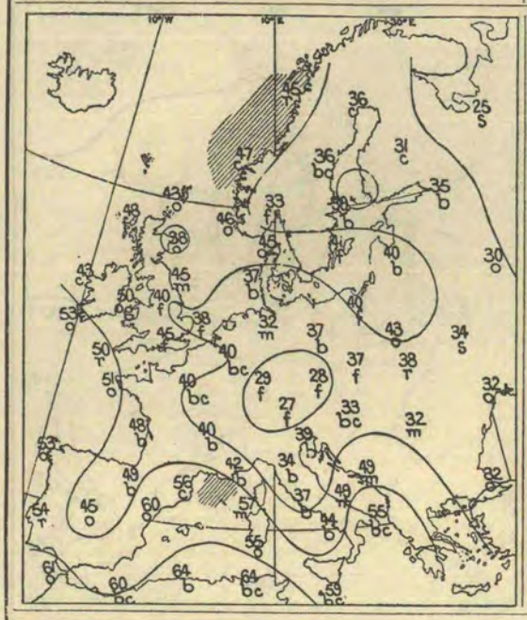
Wind mainly Easterly to North-Easterly, and moderate in force over southern and south-western Europe, Easterly and South-Easterly over the United Kingdom, calm in Scotland, and South-Westerly to Westerly, strong to a gale over Scandinavia. Becoming calm over the United Kingdom later, but scarcely changing elsewhere.

Barometer still highest (30·3 ins. to 30·6 ins.) in the anticyclone lying over central, western, and southern Europe; lowest, 29·6 ins. and less, in a depression over Lapland; gradients rather steep over the northern parts of Scandinavia and Gulf of Bothnia only. Depression in that region passing away to northward later.

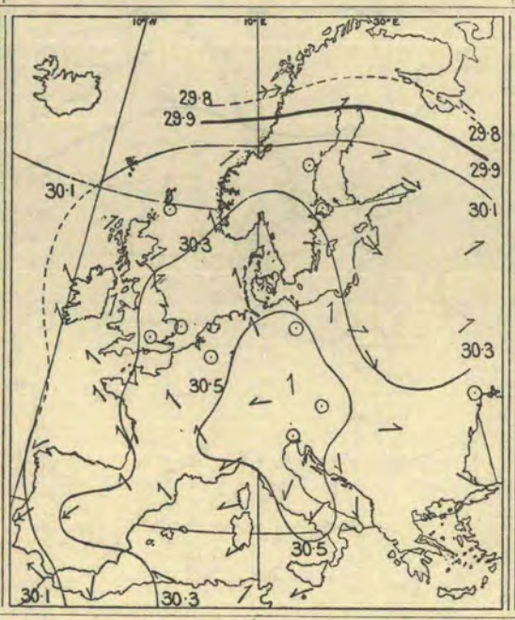
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 14th November.

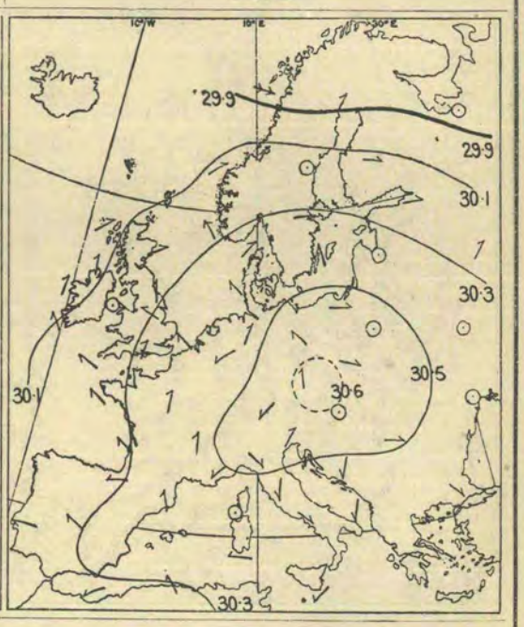
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine over south-western and southern Europe and also in Sweden; dull elsewhere, with thick wet fogs in the United Kingdom and at some of the German stations and in Austria. Heavy rain at Constantinople, snow in southern Russia, and also at Archangel and Uleaborg. Decided rain on our north-west and north-east coasts later, as well as in the north-west of Norway; also at Oporto and Constantinople.

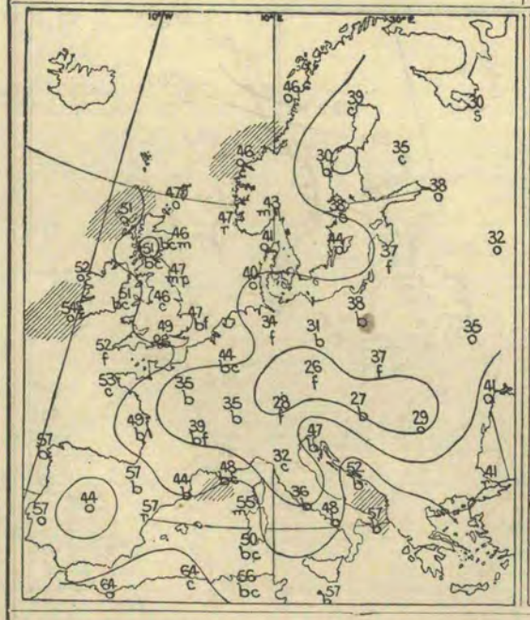
Temperature rising over western Europe; still low in the east and south. Frost holding both in northern Russia and in Austria, but thermometer exceeding 50° on our south-west coasts and in Portugal, and exceeding 60° in some parts of Spain and Algeria. Daily maxima 53° to 55° in Ireland, exceeding 60° in several parts of France, exceeding 70° at Biarritz and in many parts of Algeria, and exceeding 80° at La Calle.

Wind more Southerly over our Islands than of late, South-Easterly over the Bay of Biscay, North-Easterly over south-western and southern Europe. The South-Westerly gale in Norway dying down, and moderate North-Westerly breezes still holding over Finland and the Baltic Provinces. No great change later; Westerly gale still holding at Bodö at 6 p.m.

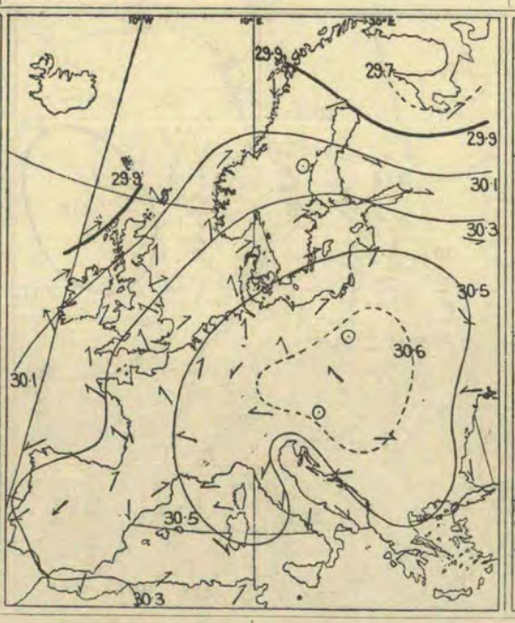
Barometer remaining highest (30·3 ins. to nearly 30·6 ins.) in the large anticyclone over the Continent; lowest, 29·8 ins. and less, over Lapland, 30·1 ins. and less, off our extreme western coasts and over the south-west of Spain. No depression noticeable in any part of Europe.

Friday, 15th November.

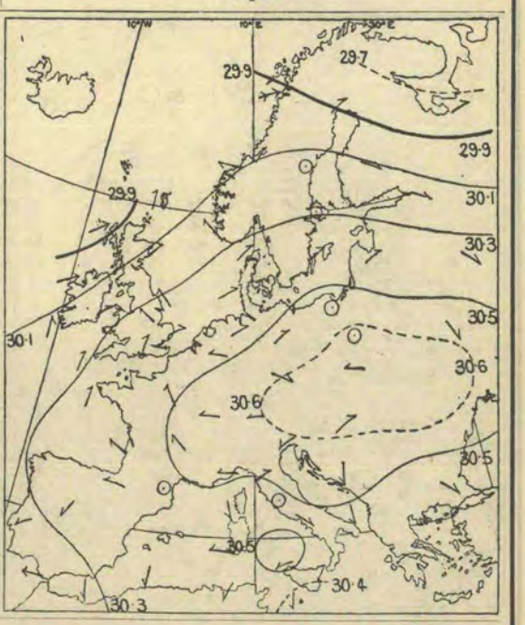
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine over the greater part of Europe, but foggy in several localities; dull and damp over the British Islands, and rather showery over northern Europe; still very rainy at Constantinople. Mild and damp over the United Kingdom all day, with some rain at all our western and northern stations, and in the west of Norway.

Temperature irregularly distributed; high for time of year over the United Kingdom and Norway, and in some parts of Poland and the Baltic Provinces; below the freezing point over the southern parts of Germany and Austria and in the northern parts of Russia, above 60° in most parts of Spain and Algeria. Daily maxima as high as 55° to 60° in many parts of the British Islands, above 60° in France, touching 70° in some parts of Spain, and ranging between 70° and 80° over Algeria.

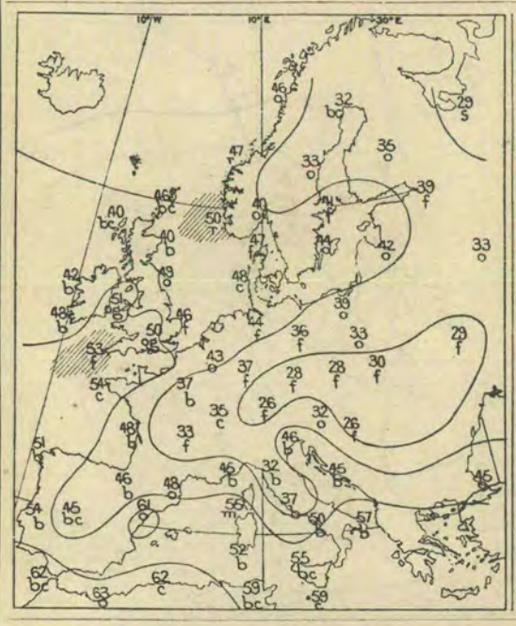
Wind freshening from South and South-West over our Islands and Norway, Westerly over the Baltic and Finland, South-Easterly over the Bay of Biscay, North-Easterly in Spain, and very variable elsewhere. Calm in Austria. Southerly wind blowing strong to a gale in the extreme west and north-west of our Islands later, and a West-South-West gale holding in the west of Lapland.

Barometer still highest (30·3 ins. to 30·6 ins.) in the European anticyclone, centre of which had, however, moved eastwards somewhat; lowest off our north-western coasts. Gradients moderate in north-west; slight elsewhere. Depression apparently skirting our north-west coasts in a north-easterly direction at some distance. Barometer beginning to rise again at Valencia in afternoon.

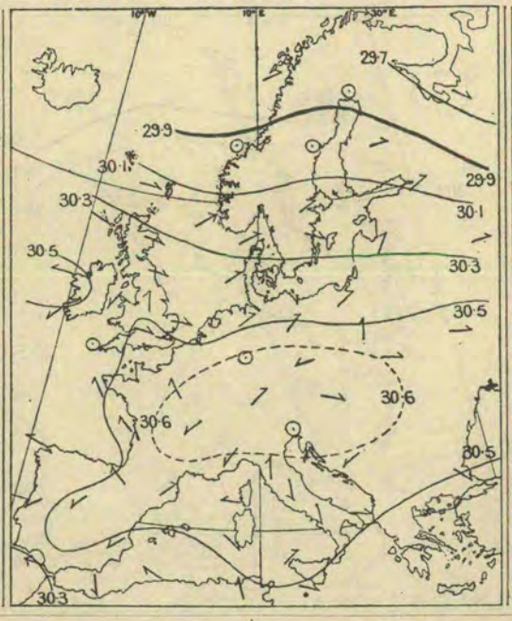
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 16th November.

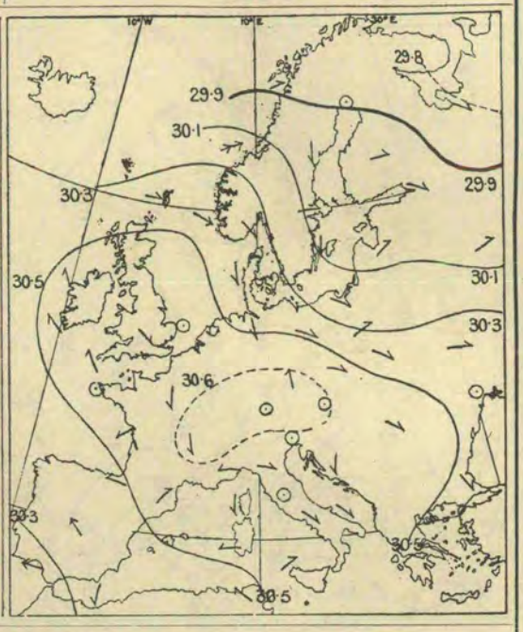
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine in the north of our Islands as well as over France, southern Europe, and Algeria. Dull elsewhere, with fog over the Netherlands, Germany, Denmark, and the east and south of England, and rain in the north of England and the west of Norway. Weather improving later over our northern counties, but slight rain falling at some of our southern and eastern stations.

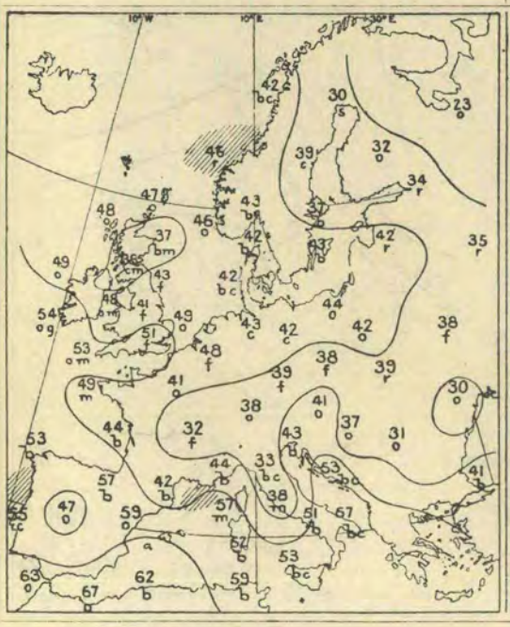
Temperature highest, 65° and upwards, over the central and southern parts of the Mediterranean; lowest, 32° or a little less, over the southern parts of Germany, Austria, and Russia, and the neighbourhood of the White Sea. Daily maxima below 45° in many parts of northern and central Europe, but thermometer rising above 50° at most of our own stations, above 60° over Spain and the southern parts of Italy and France, and above 70° on the coasts of Algeria. Highest reading of all 79° at La Calle.

Wind light to fresh from the Westward or South-Westward over the greater part of northern, eastern, and central Europe, but from the North-Westward over the north-west and extreme north of the United Kingdom. Chiefly Easterly in Spain and South-Easterly in Algeria and the west of France, but light and variable in Italy. South-Easterly breezes setting in later over Ireland, and South-Westerly breezes in the north of Scotland.

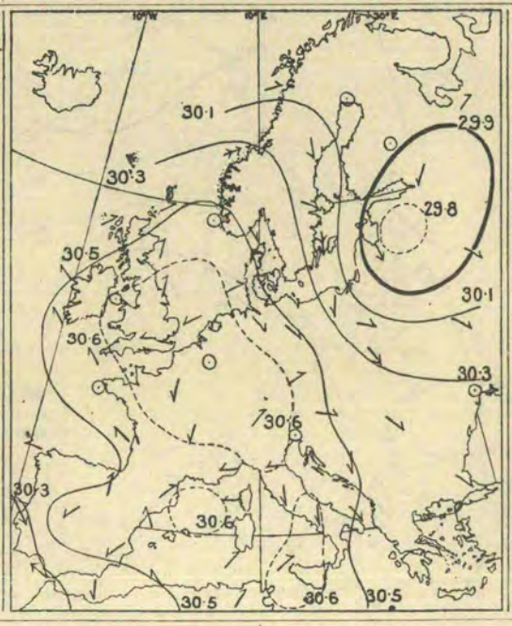
Barometer highest, 30·6 ins. and upwards, in a large anticyclone lying over the southern parts of France, Germany, and Austria; high, 30·5 ins. and upwards, in a new but smaller system which had appeared over Ireland. Lowest, 29·7 ins. and less, in a large depression which was moving eastwards across the White Sea. Anticyclone over Ireland subsequently moving eastwards, and becoming merged in the larger system lying over central Europe. Depression over White Sea travelling away, but shallow secondary disturbance forming over the Gulf of Finland.

Sunday, 17th November.

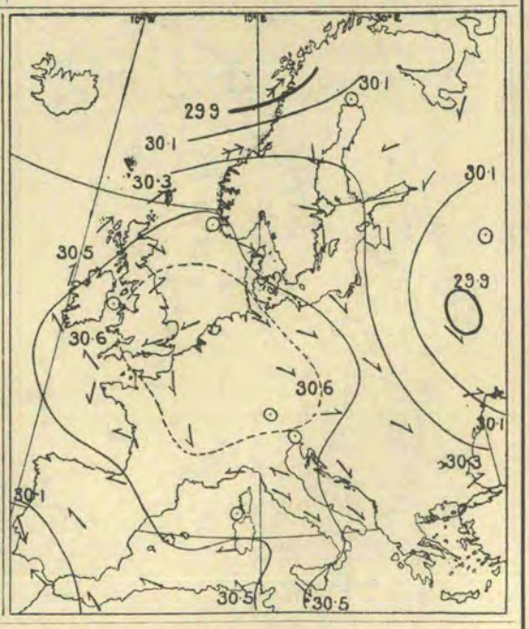
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine and bright at some of our own northern stations, as well as over Denmark, the south of Sweden, and the greater part of southern Europe. Cloudy or overcast elsewhere, with fog or mist and slight rain in many places, and with snow at Haparanda. Very little change occuring later, but sky clearing on the southern shores of the Baltic. Bright aurora seen in the north of Scotland at night.

Temperature highest, 60° and upwards, in Algeria and the extreme south of Spain; lowest, 32° or a little less, in the south-east of Scotland, the north-east of Ireland, and the northern and extreme southern parts of Russia. Daily maxima slightly above 55° on some parts of our extreme western and southern coasts, but below 50° in Germany and central France. Thermometer rising above 60° in Spain and the south of Italy, and above 70° in Algeria, the highest reading of all being 80° at La Calle.

Wind light from the Eastward over the Channel, the Bay of Biscay, the Iberian peninsula, and the south of France; moderate from the South-Eastward on our extreme western coasts; South-Westerly in the north and east of Scotland, and also in the west of Norway, with a gale at Christiansund. Strong from the northward over the Baltic, with a gale at Wisby; moderate from the North-Westward in eastern Germany; light from the Westward in the south of Russia. Northerly in Italy, Southerly or South-Easterly in Algeria.

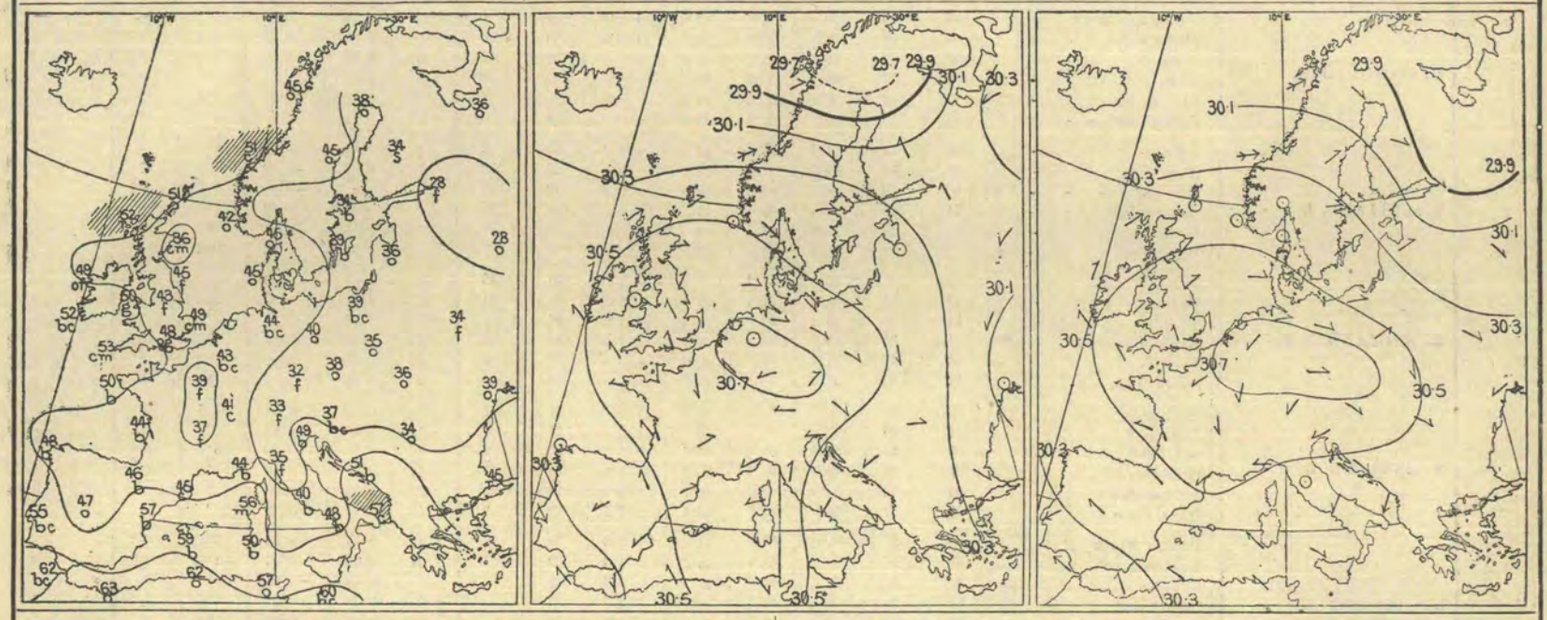
Barometer highest, 30·6 ins. and upwards, in a large anticyclone lying over the greater part of England, France, the Netherlands and South Germany, and also in a smaller system lying over the south of Italy. Lowest, 29·8 ins. and less, in a depression lying over the Baltic Provinces. Depression subsequently moving southwards to the south of Russia; no important change occurring over western or southern Europe.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 18th November.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine over North Germany and the Baltic, as well as in Spain, Italy, the west and south of France, and eastern Algeria. Cloudy or overcast elsewhere, with fog or mist in many places, rain at Stornoway and Constantinople, and snow at Kuopio. Subsequently becoming dull over North Germany and the Baltic; snow falling at Moscow.

Temperature highest, 60° and upwards, in Algeria and the south of Spain; lowest, 32° or a little below, over the central parts of Russia and Germany. Daily maxima over our Islands ranging between 48° at Aberdeen and 58° at Jersey; thermometer rising above 60° over Spain and the southern parts of France and Italy, and above 70° in Algeria, the highest reading of all being 79° at La Calle.

Wind South-Easterly over Ireland, England, and the west of France, South-Westerly in the north of Scotland, Westerly in Scandinavia, Denmark, and North Germany, and North-Westerly over Poland, Austria, and eastern Germany. Variable over the central parts of Russia and France, and also over nearly the whole of southern Europe and the Mediterranean. Light or moderate in force generally, but strong to a gale from the Westward at Christiansund and the Scaw. North-Easterly breezes setting in later over Italy, and South-Easterly breezes in Algeria.

Barometer highest, 30·7 ins. and upwards, in a large anticyclone having its central portion over the Netherlands and North Germany; high, 30·3 ins. and upwards, in a new system which had appeared over northern Russia. Lowest, 29·8 ins. and less, in a large depression lying over the north of Scandinavia; low, 30·0 ins. and less, in another disturbance lying over the extreme south of Russia. Depressions subsequently moving away in an easterly direction, and anticyclone extending slowly eastwards.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟹ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

Throughout this week an anticyclone of great size and intensity has prevailed over central Europe, and occasionally spread westwards over the whole of the British Islands. On several occasions depressions have advanced over the extreme north of Europe from the Atlantic, and on the 13th and 17th secondary systems were found over the Gulf of Finland and the Baltic Provinces, but the western and southern parts of our area have been free from disturbance. Temperature, notwithstanding the anticyclonic conditions, has been high over the United Kingdom and Western Europe, but rainfall very slight. Much cloud has prevailed, and mist and fog have been reported daily.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
November 11th - - -	Churchstoke - - -	60	30	54·3	39·7	47·0	+ 5·0	45	6	0	—	−0·82	16·6	27

III. DATA from which the SUMMARY on page 271 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	52	40	50·4	43·6	47·0	+ 5·2	35	0	3	0·14	−0·85	*	*
	Stornoway	53	38	51·3	42·3	46·8	+ 5·4	34	0	6	0·65	−0·43	4·1	8
	Wick	52	32	50·3	37·7	44·0	+ 3·0	32	12	4	0·20	−0·49	*	*
	Lairg ℒ	55	25	50·1	34·8	42·5	+ 2·7	34	20	3	0·11	−0·80	*	*
	Glencarron ℒ	55	32	50·3	40·3	45·3	+ 6·2	30	5	3	0·42†	−1·87	4·8	9
	Fort Augustus ℒ	54	33	50·8	38·9	44·9	+ 4·7	33	9	2	0·15†	?	5·8	11
1. SCOTLAND, E.	Nairn	55	33	51·6	37·6	44·6	+ 4·4	37	12	1	0·04	−0·49	*	*
	Aberdeen	53	32	48·7	37·6	43·2	+ 2·8	27	12	1	0·03	−0·72	20·1	37
	Braemar ℳ ℒ	50	26	48·0	30·0	39·0	+ 2·6	17	46	0	—	−0·89	27·0‡	49‡
	Ochtertyre ℒ	54	25	50·4	35·0	42·7	+ 3·0	34	20	4	0·13	−0·86	*	*
	Leith	57	29	51·9	37·1	44·5	+ 3·9	38	14	1	0·03	−0·45	*	*
	Marchmont ℒ	53	29	48·4	36·4	42·4	+ 4·4	26	16	2	0·04	−0·76	10·3	18
2. ENGLAND, N.E.	Alnwick Castle	52	31	49·9	37·3	43·6	+ 2·9	31	13	1	0·12	−0·63	*	*
	Durham	52	31	48·3	37·9	43·1	+ 2·3	25	11	3	0·31	−0·38	6·4	11
	Shields	54	35	50·4	39·9	45·2	+ 3·2	31	6	2	0·27	−0·34	*	*
	Scarborough ℳ	51	35	48·4	39·6	44·0	+ 2·2	24	7	3	0·16	−0·56	6·8‡	12‡
	York	55	27	48·7	37·1	42·9	+ 1·4	27	14	4	0·25	−0·26	1·2	2
	Spurn Head	52	40	49·9	43·3	46·6	+ 4·4	32	0	3	0·04	?	*	*
3. ENGLAND, E.	Hillington ℳ	53	32	50·6	39·7	45·2	+ 3·3	32	6	1	0·12	−0·51	21·5	36
	Yarmouth	52	33	49·9	41·7	45·8	+ 3·3	28	1	2	0·16	−0·58	*	*
	Geldeston	53	29	51·3	38·9	45·1	+ 2·5	35	9	3	0·15	−0·49	15·2	25
	Cambridge	55	28	52·1	38·4	45·3	+ 3·6	38	10	2	0·07	−0·40	13·8	23
	Rothamsted	55	32	50·4	40·9	45·7	+ 4·7	31	3	0	0·03§	−0·60	*	*
	Ingatestone	55	32	50·0	41·0	45·5	+ 3·5	29	3	1	0·02	−0·55	*	*
4. MIDLAND	Bawtry (Hesley Hall)	55	29	51·0	37·3	44·2	+ 2·2	35	13	4	0·13	−0·38	4·6‡	8‡
	Loughborough	55	26	50·9	39·6	45·3	+ 4·3	33	7	3	0·11	−0·43	4·9‡	8‡
	Cheadle ℳ	54	33	48·5	41·6	45·1	+ 4·6	23	1	2	0·18	−0·56	*	*
	Churchstoke ℳ	54	29	50·4	40·3	45·4	+ 5·0	31	5	3	0·23	−0·59	2·5	4
	Hereford ℳ	56	29	51·4	42·4	46·9	+ 5·1	34	0	1	0·04	−0·51	*	*
	Cirencester	56	31	50·3	40·1	45·2	+ 4·3	30	5	1	0·25	−0·46	6·1	10
	Oxford	57	28	50·4	40·9	45·7	+ 4·3	32	3	1	0·02	−0·52	6·3	11
5. ENGLAND, S.	London	60	33	52·7	41·7	47·2	+ 4·9	38	1	0	0·02§	−0·48	5·2‡	9‡
	Strathfield Turgiss ℳ	59	29	51·5	41·0	46·3	+ 4·3	34	3	2	0·06	−0·52	*	*
	Dungeness	57	42	52·1	45·7	48·9	+ 4·8	48	0	1	0·04	−0·79	*	*
	Hastings (St. Leonard's)	57	42	52·4	46·3	49·4	+ 5·3	52	0	2	0·09	−0·66	17·1	28
	Southampton	59	36	54·2	44·5	49·4	+ 6·3	52	0	1	0·06	−0·62	9·3	15
	Hurst Castle	59	41	54·6	47·7	51·2	+ 6·4	64	0	1	0·10	−0·59	*	*
	Stowell ℳ	57	36	52·3	45·8	49·1	+ 6·6	50	0	0	0·01§	?	2·3‡	4‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	58	35	53·2	42·2	47·7	+ 5·7	40	0	2	0·56†	−1·64	*	*
	Glasgow	54	31	49·7	39·7	44·7	+ 4·7	29	6	3	0·09	−0·78	7·6	14
	Ardrossan	53	35	51·7	41·1	46·4	+ 5·4	35	3	2	0·16	−0·76	*	*
	Glenlee ℒ	53	27	50·3	39·0	44·7	+ 5·7	32	8	3	0·25	−1·13	*	*
	Douglas (Isle of Man)	56	30	51·7	42·4	47·1	+ 4·6	36	0	3	0·37	−0·70	7·7	13
7. ENGLAND, N.W.	Newton Reigny (Penrith)	53	27	50·7	36·7	43·7	+ 3·1	34	15	3	0·16	−0·64	11·3	20
	Barrow-in-Furness	53	37	49·9	43·0	46·5	+ 3·3	32	0	5	0·44	−0·46	*	*
	Stonyhurst	54	35	49·1	41·9	45·5	+ 4·2	25	0	3	0·65	−0·44	4·7	8
	Blackpool ℳ	56	34	50·9	41·8	46·4	+ 2·6	32	1	2	0·42	−0·38	6·5	11
	Manchester	54	34	50·1	42·1	46·1	+ 4·0	29	0	4	0·50	−0·35	*	*
	Liverpool Obsr (Bidston)	56	33	50·4	43·0	46·7	+ 3·4	38	0	5	0·58	−0·09	*	*
	Llandudno ℳ	59	36	53·4	42·7	48·1	+ 3·1	43	0	4	0·12	−0·69	12·2	21
	Holyhead	55	42	52·6	45·0	48·8	+ 2·9	48	0	2	0·64	−0·24	*	*
8. ENGLAND, S.W.	Llandovery	55	32	52·4	42·9	47·7	+ 4·9	40	0	4	0·25	−0·92	*	*
	Pembroke	55	44	53·1	48·6	50·9	+ 5·8	62	0	4	0·20	−0·71	4·6	8
	Arlington (N. Devon)	57	36	52·6	45·0	48·8	+ 6·0	48	0	2	0·05	−1·38	*	*
	Cullompton ℳ	57	39	53·2	46·3	49·8	+ 6·0	55	0	2	0·07	−0·72	0·2	0
	Falmouth	57	49	54·5	50·9	52·7	+ 6·7	75	0	5	0·39	−0·89	0·0	0
	Plymouth	56	46	54·4	49·4	51·9	+ 6·3	69	0	1	0·04	−0·78	0·3	0
	Prawle Point	56	48	53·0	49·9	51·5	+ 5·7	67	0	0	—	?	*	*
9. IRELAND, N.	Malin Head	53	38	51·4	44·0	47·7	+ 4·8	40	0	1	0·01	?	*	*
	Londonderry	54	35	52·3	42·7	47·5	+ 5·0	39	0	0	—	−0·91	*	*
	Mullaghmore	57	40	?54·0	44·6	?49·3	+?6·3	?51	0	3	0·13	−0·99	*	*
	Belmullet	54	40	52·1	43·7	47·9	+ 2·2	41	0	4	0·41	?	*	*
	Markree Castle	54	29	51·7	41·1	46·4	+ 4·1	35	3	2	0·08	−0·74	7·4	13
	Brookeborough	54	30	51·5	40·4	46·0	+ 4·6	35	4	2	0·21	?	*	*
	Armagh	55	29	52·2	42·4	47·3	+ 5·2	37	0	2	0·10	−0·54	9·5	16
	Donaghadee	55	31	52·3	39·9	46·1	+ 3·1	38	6	3	0·12	−0·61	*	*
	Edgeworthstown	55	33	52·1	41·7	46·9	+ 5·1	36	1	4	0·19	−0·64	*	*
10. IRELAND, S.	Dublin	56	36	53·4	43·9	48·7	+ 5·2	47	0	3	0·14	−0·38	11·8	20
	Parsonstown	56	35	53·1	43·0	48·1	+ 5·9	43	0	3	0·13	−0·52	10·1	17
	Kilkenny	56	36	53·1	43·4	48·3	+ 5·6	44	0	3	0·20	−0·40	*	*
	Waterford	55	40	53·1	46·0‖	49·6‖	+ 4·6‖	53‖	0	3	0·23	−0·67	*	*
	Roche's Point	54	46	54·1	48·6	51·4	+ 5·9	66	0	5	0·23	−0·83	*	*
	Valencia	57	45	54·4	47·6	51·0	+ 3·8	63	0	2	0·49	−0·81	6·5	11
	Killarney	59	38	54·4	45·8	50·1	+ 4·4	57	0	2	0·37	?	*	*
	Foynes	56	42	54·0	45·6	49·8	+ 6·6	55	0	3	0·17	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	56	48	53·6	50·3	52·0	+ 3·2	70	0	6	0·48	−0·40	*	*
	Jersey	58	43	53·7	47·1	50·4	+ 4·2	59	0	1	0·05	−0·93	14·1	22

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ℒ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

‖ The corresponding values for last week should read respectively "42·9," "48·2," "+ 1·7," and "43."

(OFFICIAL COPY.)

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 47.] *Third Series.* WEEK ENDING MONDAY, 25TH NOVEMBER, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 282.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	58	30	49·4	41·3	45·4	6 above.	27	+16	2	−23	2079	+220	581	− 37
	1. SCOTLAND, EAST	57	27	48·6	39·1	43·9	6 above.	25	+13	8	−21	2391	+ 29	632	− 35
	2. ENGLAND, N.E.	53	30	47·0	37·2	42·1	2 above.	21	+ 7	13	−12	2353	+ 14	520	− 50
	3. ENGLAND, EAST	53	33	46·9	39·9	43·4	3 above.	19	+ 2	6	−19	2916	− 5	656	+ 59
	4. MIDLAND COUNTIES	56	30	48·2	39·9	44·1	4 above.	24	+ 8	6	−23	2876	− 5	613	− 3
	5. ENGLAND, SOUTH	56	35	49·7	43·1	46·4	4 above.	31	+ 9	0	−19	3237	+ 57	452	+ 12
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	58	28	50·3	41·5	45·9	6 above.	29	+12	1	−21	2565	+ 66	402	− 82
	7. ENGLAND, N.W.	58	30	48·7	38·9	43·8	2 above.	23	+ 8	9	−10	2724	+ 57	394	− 54
	8. ENGLAND, S.W.	57	31	51·7	44·6	48·2	5 above.	43	+15	0	−10	3019	− 68	327	+ 63
	9. IRELAND, NORTH	57	30	49·9	41·3	45·7	4 above.	20	+10	2	−17	2673	+ 77	322	−100
	10. IRELAND, SOUTH	58	31	51·7	42·4	47·1	4 above.	33	+ 8	0	−16	2977	+ 12	248	− 43
	— CHANNEL ISLANDS	57	40	52·3	46·8	49·6	3 above.	53	+13	0	− 2	3539	+131	77	− 17

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 282.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	4	10	1 less.	218	+12	37·1	−1·6	3	7	937	−240	22	− 6
	1. SCOTLAND, EAST	3	4	4 less.	180	+ 6	24·4	−5·2	13	24	1130	−162	29	− 3
	2. ENGLAND, N.E.	3	1	5 less.	166	− 4	22·4	−2·9	13	23	1105	−129	27	− 3
	3. ENGLAND, EAST	3	3	3 less.	169	− 5	24·2	+0·4	5	8	1280	−213	31	− 6
	4. MIDLAND COUNTIES	3	5	1 less.	160	− 9	25·3	−1·7	5	9	1177	−168	28	− 5
	5. ENGLAND, SOUTH	2	5	1 less.	158	− 3	24·1	−1·4	4	6	1253	−183	30	− 5
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	5	17	6 more.	187	+ 1	37·3	−6·1	9	17	1245	− 51	30	− 1
	7. ENGLAND, N.W.	3	8	1 less.	177	+ 3	29·1	−3·3	12	21	1205	− 90	29	− 2
	8. ENGLAND, S.W.	4	11	0 (average).	176	− 9	32·1	−7·5	8	13	1422	−129	34	− 4
	9. IRELAND, NORTH	5	8	0 (average).	208	+ 1	34·6	+1·6	13	23	1077	−145	26	− 3
	10. IRELAND, SOUTH	4	12	3 more.	187	− 5	33·2	−2·6	16	27	1326	− 71	32	− 2
	— CHANNEL ISLANDS	4	15	5 more.	187	−13	27·4	−3·0	8	13	1659	−176	40	− 5

General Remarks.

Weather continued mild, the air damp, and the sky densely overcast during the earlier part of the period, but subsequently it became unsettled, with rain, alternating with bright intervals, in all parts of the Kingdom. Towards the end of the period some snow and hail showers were experienced at many of our more northern stations.

Temperature has again been above the mean, the excess having ranged from 2° in "England, N.E." and "England, N.W.", and 3° in "England, E." and the "Channel Islands", to 5° in "England, S.W." and to 6° over Scotland. The highest of the maxima, which were recorded on rather irregular dates, ranged from 53° over the east and north-east of England, to 58° in the north and west of Scotland, the north-west of England, and the south of Ireland. The lowest of the minima, which were registered on the 22nd in most parts of England, and on the 25th in Scotland and at some of the Irish and northern English stations, varied from 27° in "Scotland, E." and 28° in "Scotland, W." to 35° in "England, S.", and to 40° in the "Channel Islands".

Rainfall has again been less than the mean in all the "Wheat-producing" districts, but in some of the "Grazing" districts there has been an excess.

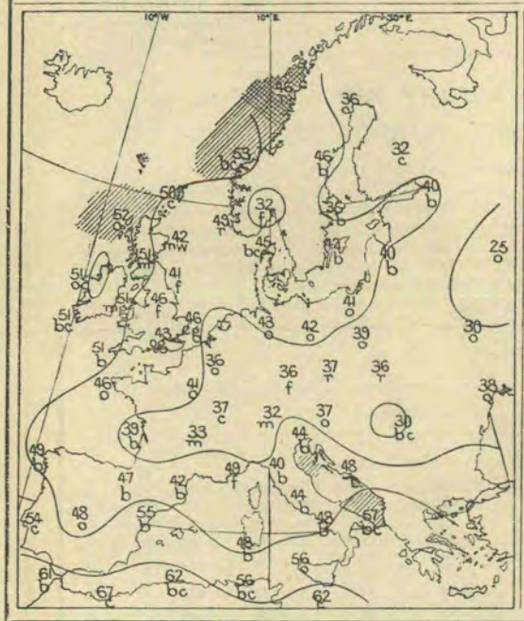
Bright sunshine has continued very deficient generally, the percentage of the possible amount of duration having ranged from 7 to 24 in Scotland, from 23 to 27 in Ireland, and from 6 to 23 over England.

Barometer and Wind.—During the earlier part of the period the distribution of pressure over our Islands continued anticyclonic, and the winds light or moderate from the Southward. By the 22nd, however, the barometer had fallen very considerably, and a "V" shaped depression had advanced over our western and north-western districts. As this disappeared the barometer rose, but on the 24th a well-defined shallow depression lay over the Channel, and during the night of the 24th—25th a rather deep "V" shaped system passed rapidly across our more northern districts to the North Sea. The wind increased to the force of a gale from the South-Westward at many of our southern and south-western stations as this depression appeared and blew a strong breeze or moderate gale from the North-Westward in most parts of the Kingdom in its rear.

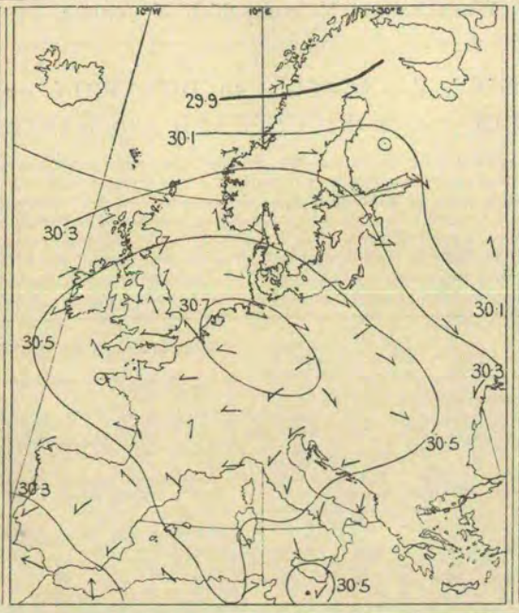
60767. · 350.—11/89. Wt. 36. E. & S.

Tuesday, 19th November.

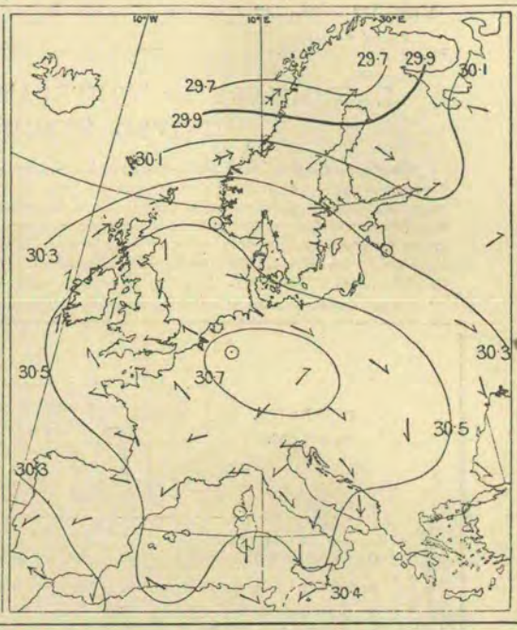
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine in the east of Scotland as well as over Sweden and the greater part of southern Europe, but dull in most other regions, with fog or mist in many places, and rain in Poland and Galicia. Sky clearing later at some of the Irish stations as well as over Denmark and the north of Russia, but no decided change occurring elsewhere.

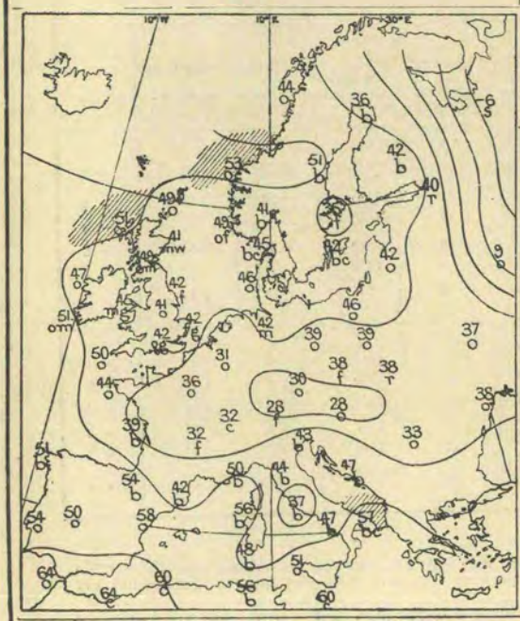
Temperature highest, 60° and upwards, in Algeria and the extreme south of Spain; lowest, 32° or a little less, over the northern and central parts of Russia and some parts of Austria and Germany. Daily maxima not reaching 50° in the south-east of England, but exceeding 55° at one or two of our south-western stations. Thermometer rising above 60° over the greater part of southern Europe, and above 70° in Algeria, the highest reading of all being 77° at La Calle.

Wind light from the North-Eastward over Italy and Spain, from the Eastward over France and the English Channel, from the South-Eastward over England, and from the Southward or South-Westward over the western and northern parts of the United Kingdom. Westerly over Scandinavia, Denmark, and North Germany, with a gale in the west of Norway; North-Westerly over the Baltic and Russia; Southerly or South-Easterly in Algeria.

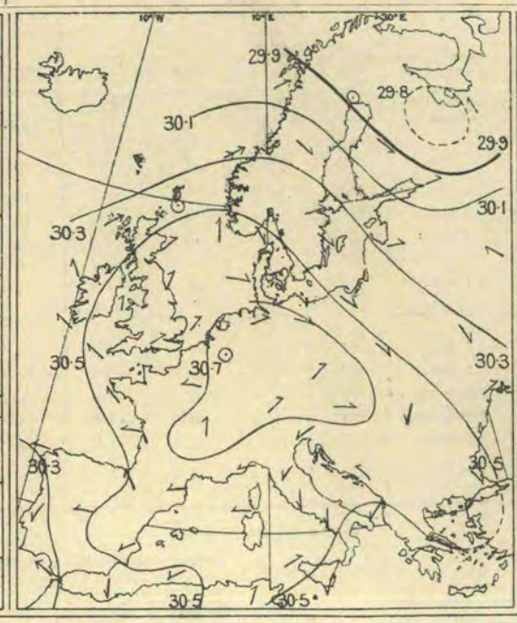
Barometer highest, 30·7 ins. and upwards, in an anticyclone, the central portion of which lay over Holland and Germany; high, 30·4 ins. and upwards, over nearly the whole of western and central Europe. Lowest, 29·9 ins. and less, in a depression lying over the north of Scandinavia. Moderate gradients for westerly winds prevailing over the greater part of northern Europe. Central portion of anticyclone subsequently moving slowly eastwards, but no other change reported over the Continent.

Wednesday, 20th November.

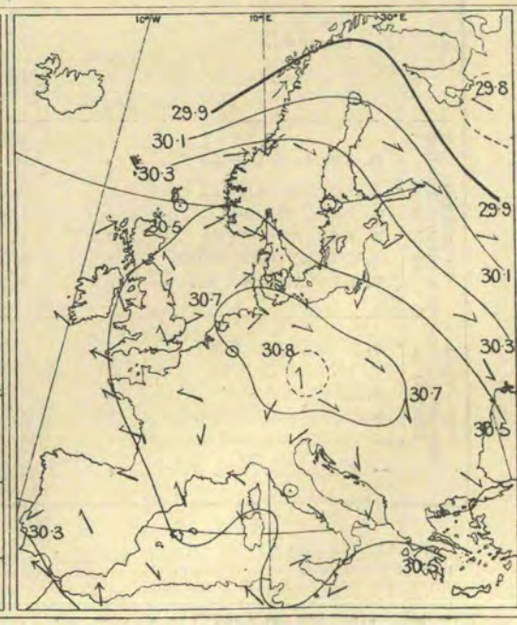
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine in the east of Scotland as well as in Sweden, Finland, Italy, Algeria, and the south of France, dull in most other countries, with fog or mist in many places, rain at St. Petersburgh, Breslau, and Lemberg, and snow at Archangel. No important change occurring later.

Temperature highest, 55° to 65°, on the coasts of the Iberian peninsula and the southern shores of the Mediterranean; lowest, −6° Faht., at Archangel: low, 16° or less, over central Russia; 32°, or a little below, over Austria, western Germany, and central France. Daily maxima below 40° in many parts of Germany and central France and below 45° in the east and south-east of England, but a little above 50° at some of our extreme western and northern stations. Thermometer rising above 60° in Spain and the south of Italy, and above 70° in Algeria, the highest reading of all being 79° at Nemours.

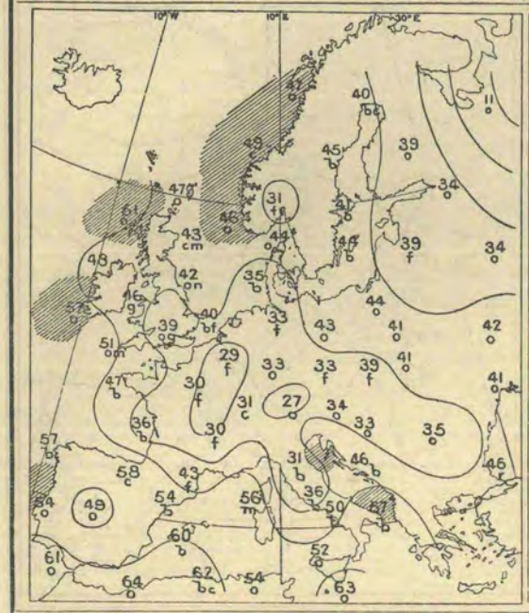
Wind light to moderate from the north-eastward in Italy, from the eastward over Spain, France, and the extreme south of England, from South-East on our western coasts and from South or South-West in the north and east of our Islands. Westerly and North-Westerly over Scandinavia, Denmark, the Baltic, eastern Germany, and the west and south of Russia; South-Easterly over northern and central Russia. Variable over western Germany and also in Algeria.

Barometer highest, 30·7 ins. and upwards, in a large anticyclone, the central portion of which lay over Holland, Germany, and the east of France; high, 30·5 ins. and upwards, over nearly the whole of central, western, and southern Europe. Lowest, 29·8 ins. and less, in a large depression lying over the White Sea and the north-east of Finland. Depression subsequently moving eastwards, but new disturbance approaching the north-west of Norway.

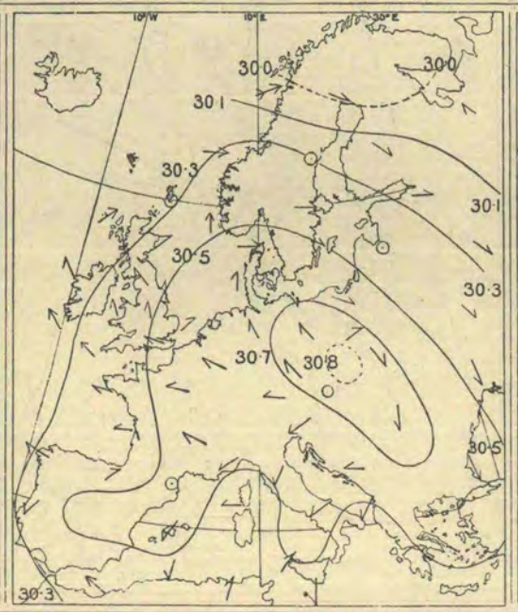
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 21st November.

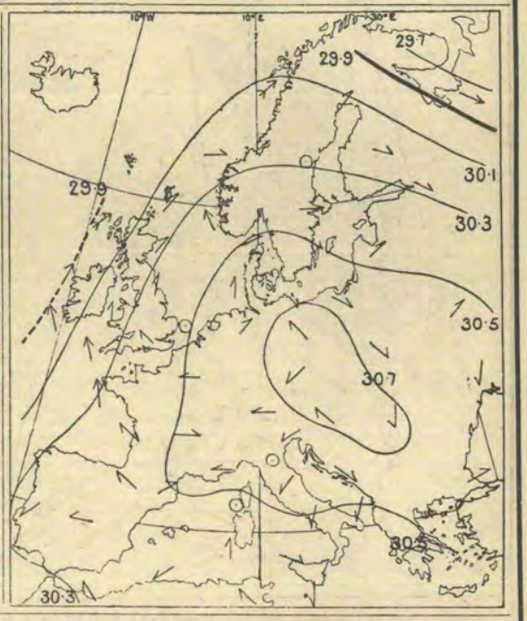
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine in Sweden as well as in the east of Scotland, the north of Ireland, France, Italy and Algeria. Cloudy or overcast elsewhere with mist or fog in many places, and rain at Constantinople. Rain falling later in several of the more western and northern parts of our Islands.

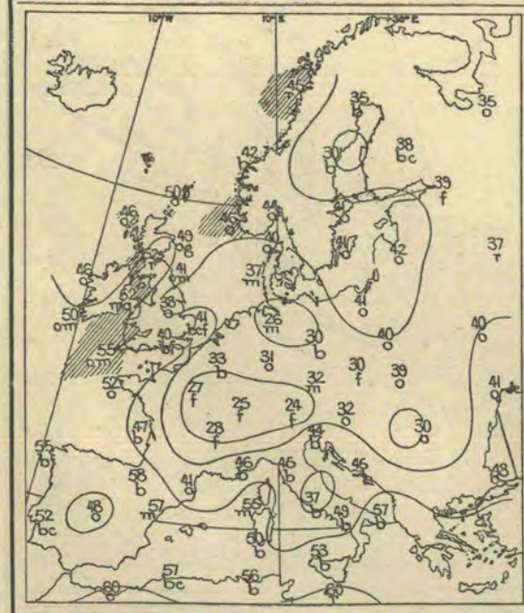
Temperature highest, 60° or a little above, in western Algeria and the extreme south of Spain. Lowest, 15° or less, over northern Russia; low, 32° or less, over central France, western Germany, and the north of Italy. Daily maxima below 40° in some parts of Germany and the east of France, and below 45° in the east and south-east of England, but above 50° in nearly all the more western and northern parts of the United Kingdom. Thermometer rising above 60° in Spain and the south of Italy, and above 70° in Algeria, the highest reading of all being 81° at Nemours.

Wind light or moderate from the North-Eastward in Italy, and from the Eastward over Spain, France, and the English Channel, but fresh from the South-Eastward on our western coasts, and light from the Southward or South-Westward over the North Sea and the east coasts of Great Britain, Westerly or North-Westerly in Scandinavia, Russia, and eastern Germany, with a gale at Bodö; variable over western Germany, and also in Algeria. Subsequently increasing to a moderate gale from the South-Eastward in Ireland, and to a fresh gale from the South-West in the Hebrides.

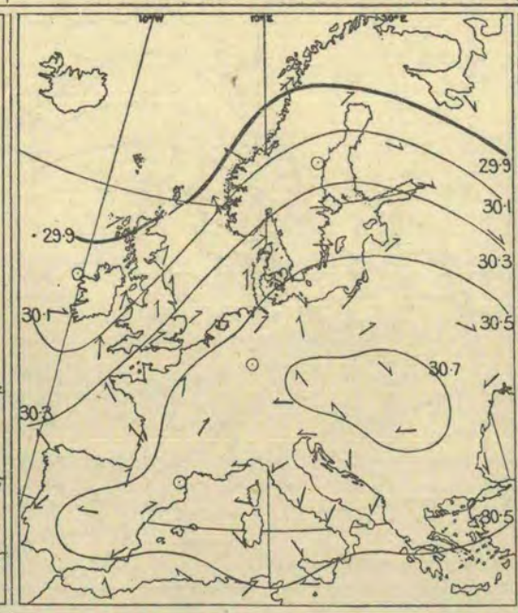
Barometer highest, 30·7 ins. and upwards, in a large anticyclone, the central portion of which lay over Austria and eastern Germany. Lowest, 30·0 ins. and less, in a large depression lying over Finmark and Lapland; another disturbance apparently lying at a considerable distance to the westward of our Islands. Latter system subsequently advancing nearer to our shores and barometer falling briskly on our extreme western coasts.

Friday, 22nd November.

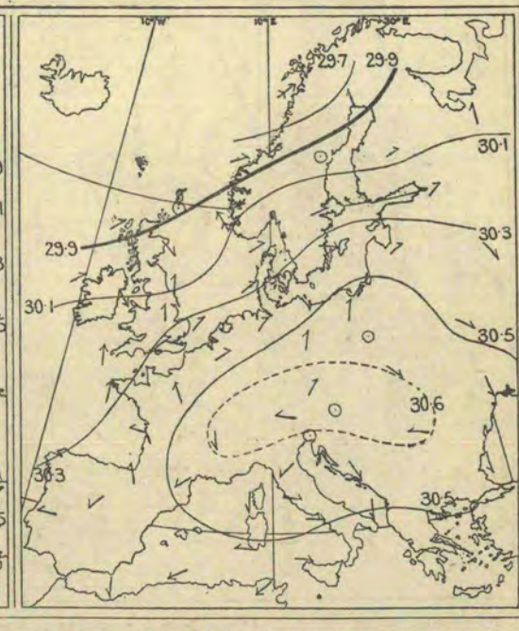
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine in nearly all the more central and southern countries, as well as in Algeria and the north of Sweden. Cloudy or overcast elsewhere, with fog or mist in many places, and rain in some parts of Ireland and Scotland, as well as at Bodö and Moscow. Heavy rain falling during day at some of our north-western stations; snow reported at Hermanstadt in evening.

Temperature highest, 55° and upwards, on the coasts of the Iberian Peninsula and over the central and southern parts of the Mediterranean. Lowest, 32° or a little less, over Germany, Austria, and central France. Daily maxima below 40° at many of the German stations, but thermometer rising above 50° in most parts of the United Kingdom, and above 55° at some of our south-western stations. Maxima exceeding 60° over the greater part of southern Europe, and also in Algeria, the highest reading of all being 79° at La Calle.

Wind light from the Westward in the west of Ireland, but moderate to strong from the Southward in nearly all other parts of western Europe, with gales in the west of Norway. Moderate Westerly or North-Westerly over Russia and the Baltic, North-Easterly in Italy, Easterly in Spain. Variable over central Europe, and also in Algeria. Subsequently backing to the South-Westward on our extreme western coasts.

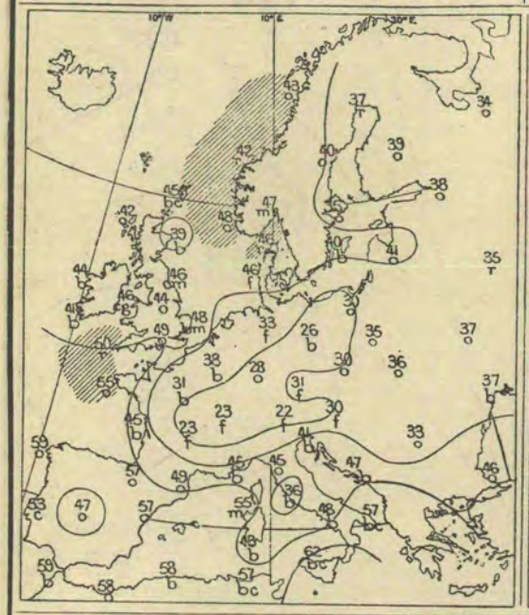
Barometer highest, 30·7 ins. and upwards, in a large anticyclone the central portion of which lay over Austria. Lowest, 29·9 ins. and less, in a large area lying to the northward of our Islands and over the extreme northern parts of Scandinavia and Russia; trough containing several "V-shaped" secondary depressions lying over our extreme western coasts. Secondary disturbances subsequently moving slowly north-eastwards, and barometer rising on our western coasts.

II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 23rd November.

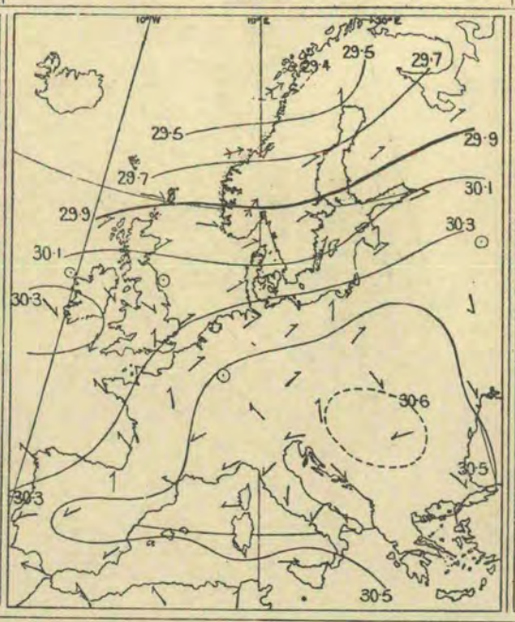
Temperature and Weather.

8 a.m.

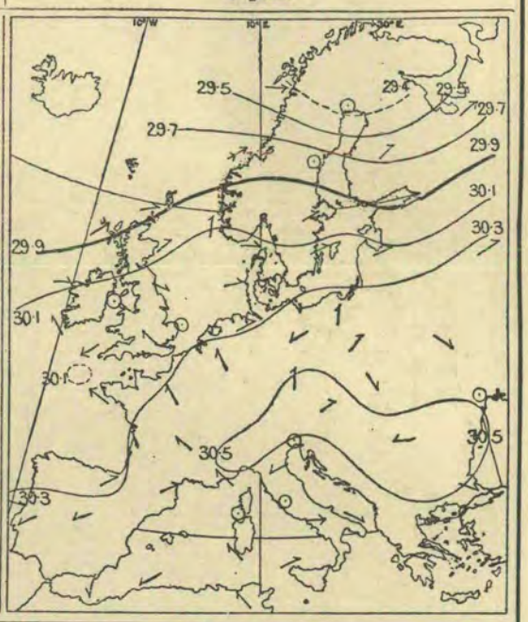


Barometer and Wind.

8 a.m.



6 p.m.



Weather dull and unsettled in Scandinavia and Russia, as well as in the south of England, with rain in many places. Fine in most other localities, but foggy in some parts of Denmark, Germany, the east of France, and the north of Italy. Rain falling later at most of the English and Irish stations, and snow reported at Moscow.

Temperature highest, 55° and upwards, on the coasts of the Iberian peninsula, Algeria, and the south of Italy; lowest, 30° or less, over south Germany, and the east of France. Maximum readings below 40° at most of the German stations, but above 50° in many parts of Ireland and England, and above 55° over our south-eastern counties. Thermometer exceeding 60° over Spain, Algeria, and the southern parts of Italy and France, the highest reading of all being 77° at La Calle.

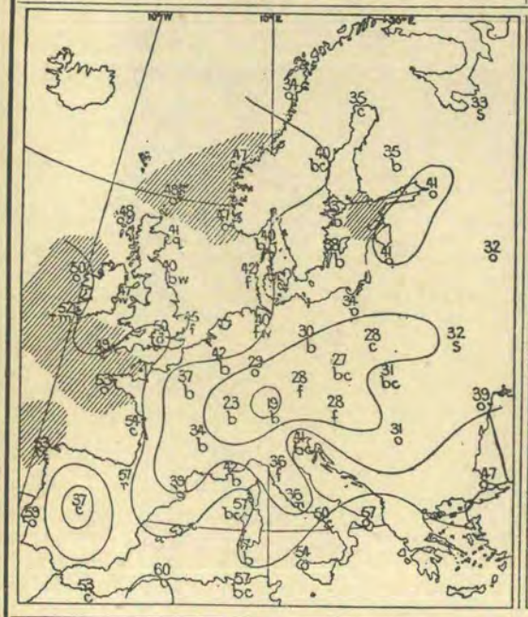
Wind South-Westerly or Westerly over the greater part of northern and central Europe, and also in the south-east of England; light or moderate in force generally, but strong to a gale on the Norwegian coasts. Easterly or South-Easterly over Spain and Algeria; North-Easterly in the west of Italy; North-Westerly over the Adriatic and also in the south of Russia. Strong South-Westerly winds setting in later on our extreme north and north-west coasts.

Barometer highest, 30·6 ins. and upwards, in a large anticyclone, the central portion of which lay over Austria; high, 30·3 ins. and upwards, in a new system which had appeared over the south of Ireland. Lowest, 29·4 ins. and less, in a large and rather deep depression, the centre of which lay off the north-west coasts of Norway. Depression subsequently moving eastwards, but new disturbance approaching our extreme northern coasts.

Sunday, 24th November.

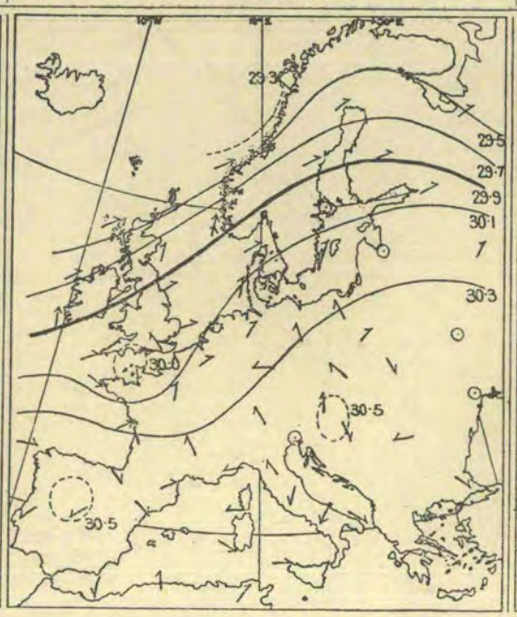
Temperature and Weather.

8 a.m.

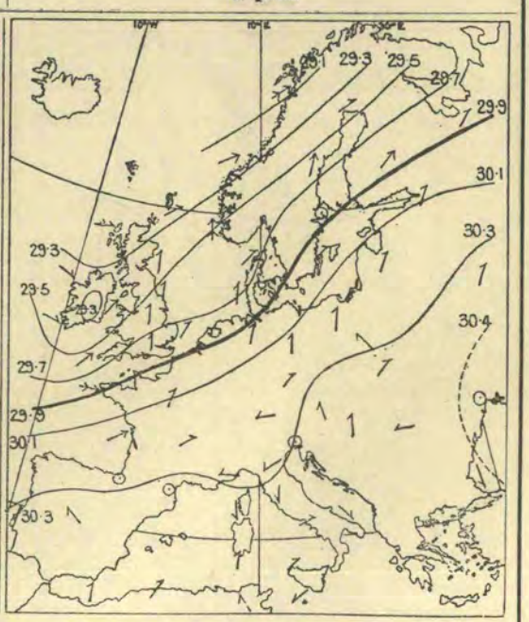


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine in the north-east of Great Britain, as well as in Scandinavia, Finland, Germany, Spain, and the east and south of France. Cloudy or overcast elsewhere, with fog in Denmark, South Germany, the south-east of England, and the north of Italy, rain in the south of Ireland and at some of the Channel stations, and snow at Archangel and Kiev. Rain falling later in nearly all parts of western Europe, heavily at some of our western stations.

Temperature highest, 50° and upwards, on the coast of the Iberian Peninsula, Algeria, and the south of Italy; lowest, 32° or less, over Germany, Austria, and central Russia. Maximum readings below 40° at many of the German stations, but thermometer rising above 50° in many parts of England and Ireland, above 60° in the southern parts of Spain and Italy, and above 70° at one or two of the Algerian stations. Highest readings of all, 79° at La Calle and 76° at Algiers.

Wind South-Westerly over the greater part of north-western Europe; strong in force in the extreme west and north, with gales in the west of Norway. Westerly over Russia, and also in the west of France; South-Easterly in Germany, and also in Algeria; variable in Italy and Spain. Subsequently increasing to a strong gale from the South-Westward over the Bristol and the eastern part of the English Channels.

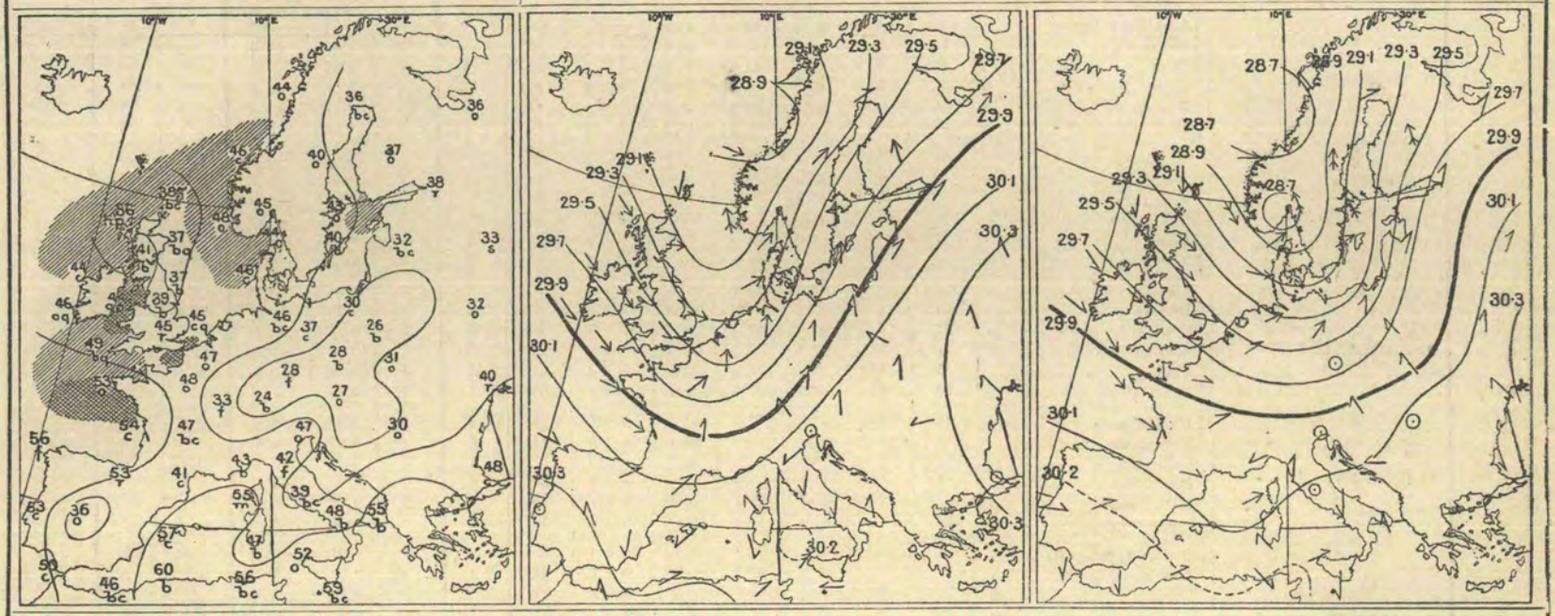
Barometer highest, 30·4 ins. to 30·5 ins., in a large anticyclone covering nearly the whole of southern and eastern Europe; lowest, 29·4 ins. and less, in a large depression lying to the northward of our Islands and the westward of Norway; shallow disturbance, with readings below 30·0 ins., lying over the English Channel. Another depression, subsidiary to the large system in the extreme north, subsequently advancing over Ireland and England in an easterly direction, and brisk fall of barometer taking place over our Islands.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 25th November.

Temperature and Weather. **Barometer and Wind.**

8 a.m. **8 a.m.** **6 p.m.**



Weather changeable and unsettled to the eastward of the North Sea, as well as over Russia and Germany; sky overcast in many places, clear in others, with rain at several stations, and snow in Moscow; rough and squally over the United Kingdom, with hail showers in many districts, cold rain showers elsewhere. Cold showers in nearly all parts of the Kingdom during the day; much rain in Scandinavia later, and also over Italy, but smaller amounts over the greater part of France.

Temperature falling decidedly over the British Islands, the North Sea, and the west and north of France, rising in the east and south of France, Germany, and the Baltic. Sharp frost over eastern Europe and Austria. Thermometer rising over England and France during the day, but succeeding night cold and frosty at inland stations.

Wind strong and squally from North-West over the United Kingdom—a gale in some exposed places; South-Westerly over the greater part of the Continent. Southerly over the Baltic and Sweden. Very light breezes reported over southern and south-eastern Europe, and their direction variable. The North-Westerly winds and gales spreading eastwards across the North Sea later, and the Southerly wind over the Baltic and Gulf of Bothnia becoming still stronger.

Barometer highest, 30·3 ins. to 30·5 ins., over the southern parts of Russia, and 30·2 ins. to 30·3 ins. over the Spanish Peninsula; lowest, 28·9 ins. and less, in a depression lying off the north-west of Norway, and 29·0 ins. to 29·2 ins. in a "hollow" spreading thence, in a southerly direction, over the North Sea. Hollow moving eastwards during day, and barometer rising fast over the British Islands, falling over the Baltic and Russia.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛ = a heavy gale; ➔ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During this week the large anticyclone which prevailed over western and central Europe during the greater part of November has moved south-eastwards and given way completely. Large depressions have advanced from the Atlantic to northern Europe, and during Monday a well-developed secondary passed quickly across the British Islands and the North Sea to the neighbourhood of Christiania. This latter system as it passed over caused South-Westerly gales of considerable force over the Channel and south of England, while in its rear the wind shifted quickly to the North-Westward on all our coasts, and blew with a force varying from a strong breeze to a gale over the British Islands generally. Rain fell everywhere, followed by snow in the north, and temperature decreased quickly.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND N.	Sumburgh Head	52	35	48·4	44·4	46·4	+ 5·2	31	0	3	0·73	−0·26	*	*
	Stornoway	53	34	48·4	43·6	46·0	+ 5·0	28	0	5	1·42	+0·34	4·8	9
	Wick	52	35	48·1	41·6	44·9	+ 4·5	22	1	2	0·45	−0·25	*	*
	Lairg ℳ	57	31	50·7	33·8	43·8	+ 5·0	34	15	4	0·70	−0·21	*	*
	Glencarron ℳ	58	31	50·4	39·8	45·1	+ 7·1	31	6	5	1·50†	−0·79	3·0	6
	Fort Augustus ℳ	55	30	50·6	41·7	46·2	+ 7·1	31	1	5	1·16†	?	2·4	5
1. SCOTLAND, E.	Nairn	54	35	49·0	40·9	45·0	+ 5·2	26	3	4	0·30	−0·14	*	*
	Aberdeen	52	36	47·6	38·4	43·0	+ 3·7	22	10	4	0·58	−0·17	19·7	38
	Braemar ℳ	50	29	47·2	38·1	42·7	+ 7·7	21	11	4	0·45	−0·45	4·7‡	[9‡
	Ochtertyre ℳ	52	27	48·7	37·4	43·1	+ 5·0	27	13	4	0·68	−0·31	*	*
	Leith	57	36	51·1	41·4	46·3	+ 6·3	33	2	1	0·07	−0·42	*	*
	Marchmont ℳ	54	34	48·0	38·1	43·1	+ 5·6	24	11	2	0·19	−0·61	14·0	26
2. ENGLAND, N.E.	Alnwick Castle	52	30	45·9	35·7	40·8	+ 0 8	11	25	2	0·04	−0·71	*	*
	Durham	53	31	47·4	34·3	40·9	+ 0·9	15	31	3	0·13	−0·57	15·4	29
	Shields	53	34	46·9	37·4	42·2	+ 1·1	21	13	2	0·17	−0·44	*	*
	Scarborough ℳ	51	35	47·3	37·5	42·4	+ 1·5	22	13	4	0·20	−0·52	12·0	21
	York	53	34	48·1	38·0	43·1	+ 2·5	25	11	4	0·29	−0 32	10·3	18
	Spurn Head	50	35	45·6	40·1	43·4	+ 2·2	18	5	4	0·10	?	*	*
3. ENGLAND, E.	Hillington ℳ	51	33	47·0	39·2	43·1	+ 2·3	19	8	2	0·43	−0·17	5·4	9
	Yarmouth	50	36	45·9	40·9	43·4	+ 1·9	14	3	3	0·27	−0 43	*	*
	Geldeston	51	35	47·0	39·6	43·3	+ 1·8	19	7	2	0·24	−0·39	4·5	8
	Cambridge	53	33	47·9	40·3	44·1	+ 3·4	22	5	2	0·03	−0·41	4·8	8
	Rothamsted	51	34	47·2	39·5	43·4	+ 3·4	20	7	3	0·56	−0·05	*	*
	Ingatestone	52	34	46·0	40·0	43·0	+ 2·2	15	6	3	0·38	−0·16	‡	‡
4. MIDLAND	Bawtry (Hesley Hall)	54	34	48·1	39·0	43·6	+ 2·4	24	8	4	0·03	−0·44	5·3‡	9‡
	Loughborough	54	35	47·9	40·7	44·3	+ 4·1	22	4	4§	0·34	−0·19	4·0‡	7‡
	Cheadle ℳ	53	33	47·4	37·8	42·6	+ 2·9	22	12	4§	0·73	−0·01	*	*
	Churchstoke ℳ	55	30	50·2	37·6	43·9	+ 4·2	32	12	3§	0·63	−0·14	7·1	12
	Hereford ℳ	56	40	48·4	41·8	45·1	+ 4·4	23	1	3§	0·47	−0·08	*	*
	Cirencester	55	37	47·7	40·7	44·2	+ 4·2	21	4	3§	0·80	+0·10	4·2	[7
	Oxford	53	36	47·9	41·7	44·8	+ 4·0	21	1	2	0·38	−0·14	4·9	8
5. ENGLAND, S.	London	56	35	48·6	40·9	44·8	+ 3·4	24	3	3	0·40	−0·09	4·3‡	7‡
	Strathfield Turgiss ℳ	54	38	48·6	43·2	45·9	+ 4·9	27	0	2	0·44	−0·14	*	*
	Dungeness	56	37	49·3	43·1	46·2	+ 3·2	29	0	1	0·51	−0·39	*	*
	Hastings (St. Leonard's)	56	39	49·1	42·9	46·0	+ 2·5	28	0	2	0·42	−0·30	4·6	8
	Southampton	55	37	51·0	42·5	46·8	+ 4·6	34	0	2	0·83	+0·13	3·2	5
	Hurst Castle	55	40	51·7	45·6	48·7	+ 4·7	47	0	3	0·64	−0·05	*	*
	Stowell ℳ	55	40	49·4	43·3	46·4	+ 5·4	31	0	3	0·49	?	2·4‡	4‡
6. SCOTLAND, W.	Landale (Loch Sunart)	58	33	53·0	43·4	48·2	+ 7·2	43	0	6	1·93†	−0·28	*	*
	Glasgow	53	32	49·5	41·5	45·5	+ 5·7	27	1	4	1·71	+0·83	9·8	18
	Ardrossan	52	37	49·4	43·9	46·7	+ 6·7	33	0	6	1·54	+0·63	*	*
	Glenlee ℳ	53	28	48·6	38·0	43·3	+ 5·3	26	11	6	2·04	+0·65	*	*
	Douglas (Isle of Man)	54	35	51·0	40·8	45·9	+ 4·0	32	3	3	1·26	+0·19	8·8	16
7. ENGLAND, N.W.	Newton Reigny (Penrith)	52	30	47·3	33·5	40·4	+ 0·6	15	33	3	0·41	−0·39	16·8	31
	Barrow-in-Furness	52	38	47·9	40·9	44·4	+ 1·6	21	3	3	0·56	−0·32	*	*
	Stonyhurst	54	32	47·8	37·4	42·6	+ 2·4	24	13	3	0·85	−0·24	8·8	16
	Blackpool ℳ	57	35	49·4	38·9	44·2	+ 1·6	28	9	4	0·58	−0·22	9·3	17
	Manchester	54	36	48·2	38·0	43·1	+ 2·1	25	11	3	0·64	−0·21	*	*
	Liverpool Obsy (Bidston)	58	38	49·0	40·1	44·6	+ 2·6	26	5	3	1·15	+0·51	*	*
	Llandudno ℳ													
	Holyhead	55	40	51·1	43·3	47·2	+ 2·2	33	0	3	1·19	+0·31	*	*
8. ENGLAND, S.W.	Llandovery	57	31	50·7	38·3	44·5	+ 3·0	33	10	4	1·05	−0·13	*	*
	Pembroke	56	44	51·4	46·6	49·0	+ 4·8	49	0	4	0·92	0·00	4·1	7
	Arlington (N. Devon)	56	41	50·0	42·9	46·5	+ 4·7	32	0	4	1·37	−0·06	*	*
	Cullompton ℳ	57	41	51·0	44·3	47·7	+ 5·0	40	0	4	0·54	−0·26	3·0	5
	Falmouth	57	43	53·8	47·7	50·8	+ 5·7	62	0	4	1·87	+0·62	12·7	21
	Plymouth	57	43	53·7	45·9	49·8	+ 5·6	55	0	4	1·02	+0·20	11·4	19
	Prawle Point	56	41	51·1	46·7	48·9	+ 4·6	48	0	3	0·61	?	*	*
9. IRELAND, N.	Malin Head	54	39	49·0	42·9	46·0	+ 4·1	28	0	5	0·36	?	*	*
	Londonderry	55	34	49·6	42·7	46·2	+ 4·5	29	0	5	1·16	+0·15	*	*
	Mullaghmore	56	39	50·4	44·1	47·3	+ 4·8	37	0	5	0·83	−0·27	*	*
	Belmullet	55	42	50·1	44·9	47·5	+ 2·7	39	0	5	0·98	?	*	*
	Markree Castle	54	30	50·0	38·9	44·5	+ 3·0	31	9	4	0·85	+0·04	10·4	19
	Brookeborough	53	31	49·0	38·0	43·5	+ 2·8	27	11	5	0·86	?	*	*
	Armagh	55	32	50·2	40·3	45·3	+ 3·8	30	5	4	0·75	+0 11	14·6	26
	Donaghadee	53	37	50·9	43·0	47·0	+ 4·9	35	0	6	0·60	−0·10	*	*
	Edgeworthstown	57	30	50·1	37·0	43·6	+ 2·6	32	14	6	1·19	+0·36	*	*
10. IRELAND, S.	Dublin	58	35	51·1	40·3	45·7	+ 3·0	33	5	2	0·63	+0·11	19·1	34
	Parsonstown	56	33	51·6	40·7	45·2	+ 5·0	35	4	3	1·05	+0·49	14·3	25
	Kilkenny	55	32	50·0	42·1	46·1	+ 4·5	29	0	4	1·20	+0·60	*	*
	Waterford	54	31	51·4	42·6	47·0	+ 3·5	35	0	4	1·16	+0·26	*	*
	Roche's Point	54	38	52·0	45·7	48·9	+ 4·4	43	0	6	1·33	+0·76	*	*
	Valencia	54	39	52·7	42·9	47·8	+ 1·2	41	0	4	1·00	−0·29	13·2	23
	Killarney	57	35	53·6	42·7	48·2	+ 3·4	43	0	5	1·29	?	*	*
	Foynes	56	37	51·4	41·9	46·7	+ 4·0	33	0	3	1·13	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	57	48	53·9	48·6	51·3	+ 3·3	65	0	4	2·05	+1·17	*	*
	Jersey	56	40	50·6	44·9	47·8	+ 2·7	41	0	3	0·87	−0·11	7·7	13

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked § with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

§ The corresponding values in last week's report should be respectively "7," "1," "5," "0," "5."

(OFFICIAL COPY.)

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VI. No. 48.] *Third Series.* WEEK ENDING MONDAY, 2ND DECEMBER, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number, TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 288.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	49	23	42·4	34·2	38·4	1 below.	1	− 8	28	0	2080	+212	609	− 35
	1. SCOTLAND, EAST	49	25	40·9	32·6	36·8	1 below.	0	−10	36	+ 3	2391	+ 18	668	− 20
	2. ENGLAND, N.E.	43	27	38·9	31·5	35·2	4 below.	0	−12	48	+20	2556	+ 1	568	− 23
	3. ENGLAND, EAST	45	?12	38·4	28·8	33·6	6 below.	0	−14	59	+29	2916	− 20	715	+ 89
	4. MIDLAND COUNTIES	45	24	39·1	29·0	34·1	5 below.	0	−14	55	+23	2876	− 21	668	+ 24
	5. ENGLAND, SOUTH	48	19	40·1	30·2	35·2	6 below.	0	−19	48	+25	3237	+ 37	500	+ 37
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	50	20	42·7	35·2	39·0	1 below.	2	−12	25	+ 1	2567	+ 54	427	− 78
	7. ENGLAND, N.W.	49	24	40·8	34·0	37·5	4 below.	0	−15	32	+10	2725 *	+ 43	425 *	− 41
	8. ENGLAND, S.W.	50	?13	43·1	33·5	38·3	5 below.	3	−21	31	+19	3022	− 93	358	+ 83
	9. IRELAND NORTH	53	23	44·4	36·4	40·4	1 below.	7	−10	21	− 2	2680	+ 67	343	− 98
	10. IRELAND, SOUTH	54	24	46·4	37·2	41·8	1 below.	12	−13	29	+ 1	2989	− 1	268	− 37
	— CHANNEL ISLANDS	52	33	43·7	39·2	43·0	3 below.	19	−17	8	+ 3	3538	+114	85	− 12

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 288.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	5	6	3 less.	223	+12	37·7	−1·9	4	7	941	−254	22	− 6
	1. SCOTLAND, EAST	2	1	6 less.	182	+ 4	24·5	−5·8	7	14	1197	−163	28	− 4
	2. ENGLAND, N.E.	2	4	3 less.	168	− 6	22·8	−3·1	5	10	1111 *	−129	26	− 3
	3. ENGLAND, EAST	3	4	2 less.	172	− 7	24·6	+0·2	11	20	1309	−210	31	− 5
	4. MIDLAND COUNTIES	1	less than ½	6 less.	161	−12	25·3	−2·4	15	27	1192	−162	28	− 4
	5. ENGLAND, SOUTH	0	less than ½	6 less.	158	− 7	24·1	−2·1	14	25	1267	−183	30	− 5
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	2	3	9 less.	189	− 2	37·6	−7·0	13	24	1258	− 44	30	− 1
	7. ENGLAND, N.W.	2	1	7 less.	179	0	29·2	−4·0	15	28	1219 *	− 83	29	− 2
	8. ENGLAND, S.W.	3	7	4 less.	179	−11	32·8	−7·9	11	20	1433	−128	34	− 3
	9. IRELAND, NORTH	4	5	3 less.	212	− 1	35·1	+1·3	8	15	1085	−146	26	− 3
	10. IRELAND, SOUTH	3	4	4 less.	190	− 8	33·6	−3·1	11	20	1337	− 69	32	− 1
	— CHANNEL ISLANDS	3	3	6 less.	190	−16	27·7	−3·6	17	29	1676	−172	40	− 4

General Remarks.

Weather has varied considerably in different parts of the country during this period. The first two or three days were characterised by squalls, and snow or hail showers alternating with bright intervals; subsequently, however, the conditions became more settled and generally dry, although rain was experienced at some of our extreme western and north-western stations.

Temperature has been below the mean in all districts. In Ireland and Scotland the deficit has been no more than 1°, but over the greater part of England a deficit of 5° or 6° is shown. The highest of the maxima (which were registered on irregular dates) ranged from 43° in "England, N.E." to 54° in "Ireland, S." At Rothamsted the thermometer on December 2nd is reported to have fallen to 12°, and at Llandovery a minimum of 13° is said to have occurred on the 27th November, but at other stations in those districts the minima were in no case lower than 22° and 25° respectively. In other districts the minima for the week varied from 19° in "England, S." to 27° in "England, N.E." and 33° in the "Channel Islands."

Rainfall has been considerably less than the mean in all districts.

Bright sunshine has been rather more prevalent than of late. The percentage of the possible amount of duration ranged from 7 to 24 in Scotland, from 15 to 20 in Ireland, and from 10 to 28 over England. In the "Channel Islands" 29 per cent. was recorded.

Barometer and Wind.—Soon after the commencement of the period an anticyclone appeared over the western parts of the United Kingdom from the Atlantic, and travelled south-eastwards to the Bay of Biscay. In its rear (*i.e.*, on our western coasts) the barometer fell decidedly and depressions skirted the western and north-western coasts of Ireland and Scotland. Towards the end of the period, however, another high pressure area extended over us from the north-eastward, and the depressions over the Atlantic were at a greater distance from our coasts. Fresh to strong Northerly winds (a gale in some exposed places) were experienced over our Islands during the earlier part of the time, but later on fresh or strong Southerly winds set in at all our western and northern stations, while in the south and south-east light or moderate breezes from the South-Eastward were most prevalent.

* This value has been altered slightly owing to the receipt of further information.

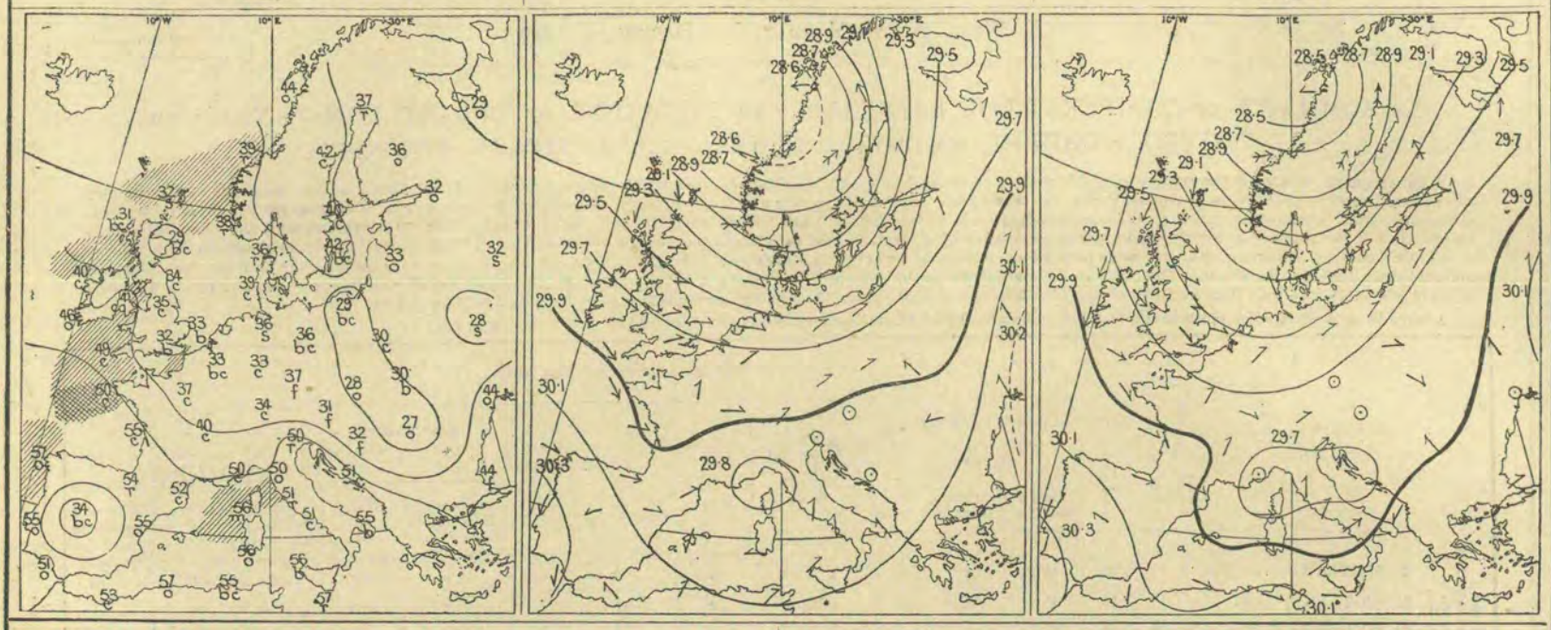
60866. 350.—12/89. Wt. 36. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 26th November.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** — **6 p.m.**



Weather very changeable, and unsettled generally; clear at times in many places, but rainy and squally in the intervals, with hail and sleet showers over the United Kingdom, thunder and lightning on our north-western coasts. Much rainfall in the south-west and south of France, as well as over Italy later, and a considerable quantity (with snow and hail) at some of our extreme western stations.

Temperature fallen very generally over western and south-eastern Europe; risen over the southern and central countries. Below 40° at about 8 a.m., except at the western and southern stations, and below 30° over Poland and Hungary; exceeding 50° in the west of France, on the Spanish coasts, and shores of the Mediterranean only, and not touching 60° anywhere. Frost during the night almost all over the Kingdom.

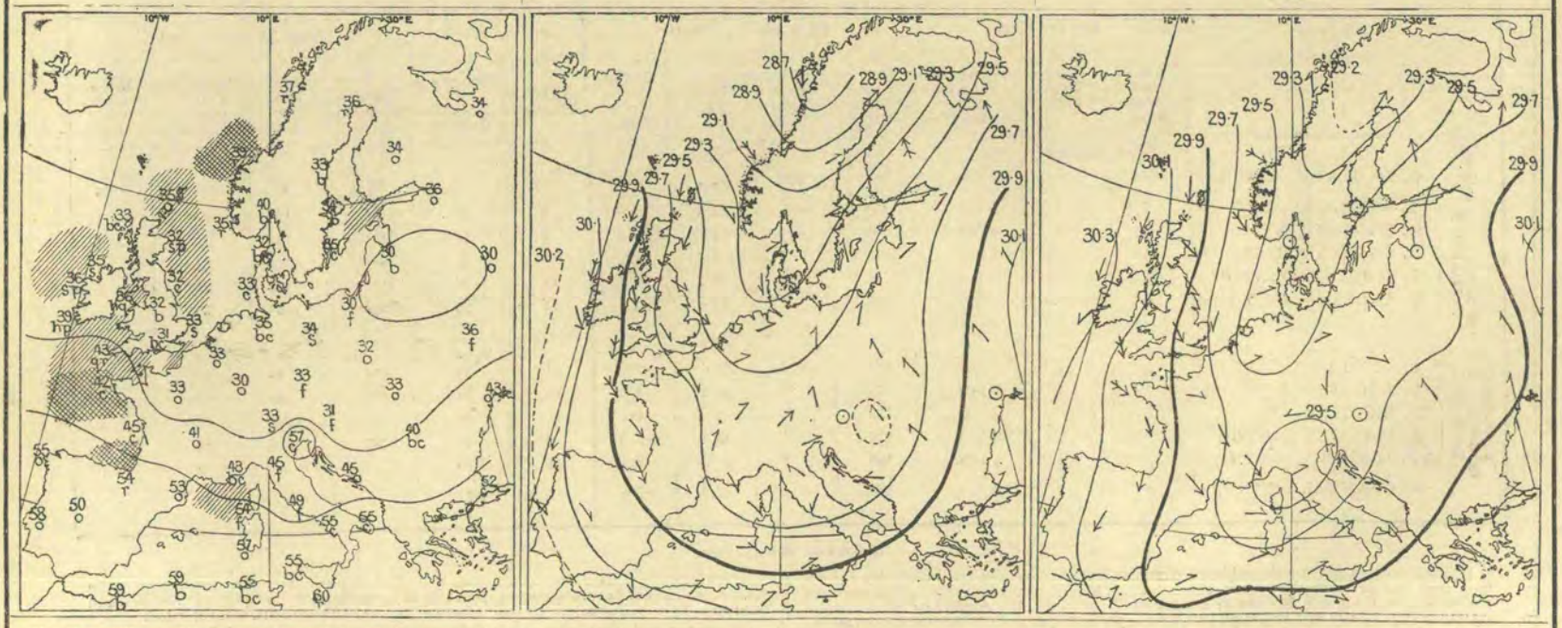
Wind North-Westerly to Westerly throughout the British Islands, the North Sea, and Norway, and over the Bay of Biscay; South-Westerly over Germany, Southerly in the Baltic; fresh to strong in force generally, and blowing a gale in the south of Norway. Much lighter breezes experienced elsewhere; a separate cyclonic circulation of fresh winds shown over the northern part of the Mediterranean. No great change later.

Barometer highest, 30·3 ins. and more, both over Portugal and the south-east of Russia. Lowest, 28·6 ins. and less, in a large depression in the north-west of Norway, 29·6 ins. and less in Holland, and 29·8 ins. and less in a depression over the Gulf of Genoa. Barometer falling in most places during the day, but inclined to rise in the west of Ireland.

Wednesday, 27th November.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** — **6 p.m.**



Weather still unsettled generally, and in most places cold. Sleet and hail squalls very prevalent over the United Kingdom and north of France, snow and cold rain over many parts of France and central Europe, fair but dull weather in Russia. Rainfall heavy on shores of Mediterranean later, but comparatively slight in other places.

Temperature uniformly low, but not very low. Morning readings below 40° over the northern, north-western, and central countries, and below 50° except over Spain and the Mediterranean; Sfax, the only station with a reading of 60°. Daily maxima 60° to 65° over Italy and 55° to 60° in the south of France.

Wind strong to a gale from the Northward over the United Kingdom, and from North-West in France and Norway, less strong from West in Holland, light from South-East over Hungary, Poland, and western Russia, and blowing a gale from South in Finland. The Southerly wind in last-named district and the Northerly wind over the British Islands, both moderating later.

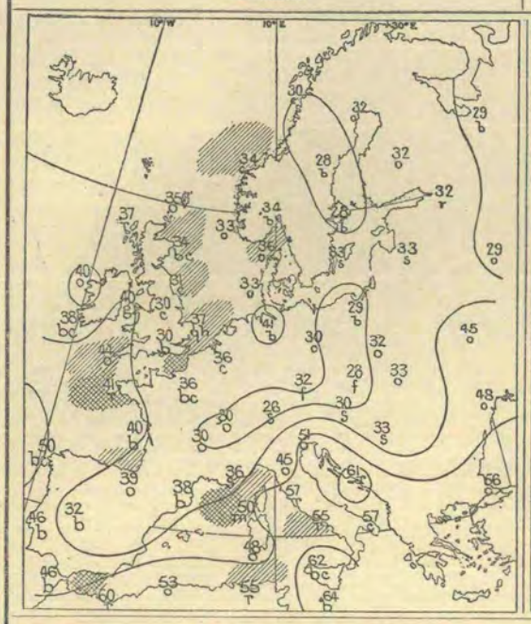
Barometer high both over Russia and western Europe—rising in the latter region, falling in the former. Lowest, 28·7 ins. and less, in a depression over Lapland, 29·4 ins. and less over Holland, and 29·6 ins. and less in two shallow depressions—one over the Gulf of Genoa, the other over Austria. Western high-pressure area increasing in intensity later and spreading eastwards; depression over Gulf of Genoa also growing deeper.

II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 28th November.

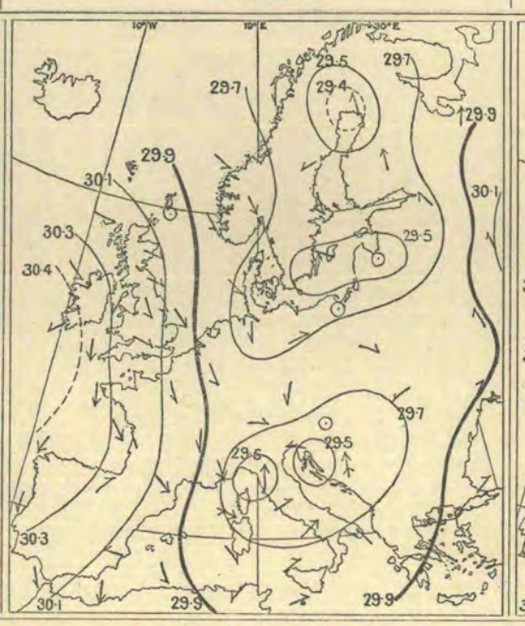
Temperature and Weather.

8 a.m.

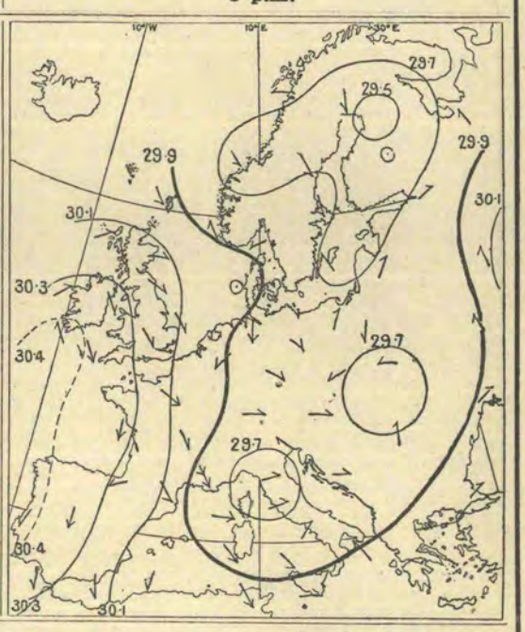


Barometer and Wind.

8 a.m.



6 p.m.



Weather becoming somewhat finer over western Europe, rough and rainy in the south and over Algeria, much snow in Austria, showery over northern Russia. Rainfall again heavy at the Algerian and Italian stations during day, but weather comparatively fine over the United Kingdom.

Temperature fallen again over the British Islands and western Europe, risen in the south and south-east. Morning readings below 40°, except in the south-eastern and extreme southern districts, and below 30° in many parts of central Europe. Frost prevalent at our own inland stations and air very keen, but thermometer above 60° at Malta, Palermo, and Lesina, and above 55° at Constantinople. Succeeding night frosty at all inland stations.

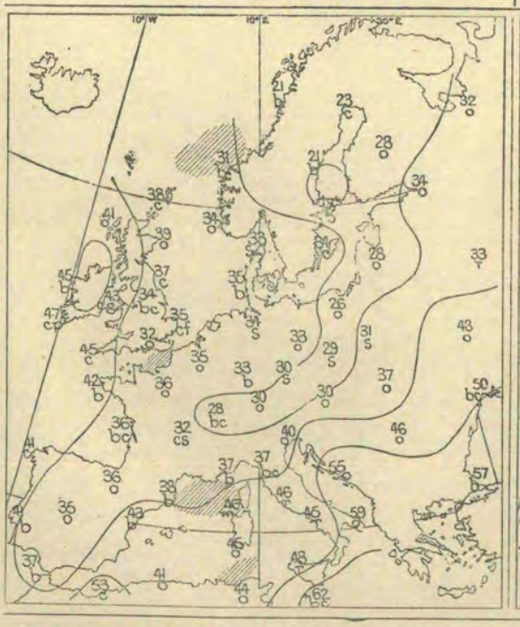
Wind Northerly over western Europe, and blowing strongly in many places; tending to "back" in Scotland. Still Southerly and South-Easterly over Finland and Russia, very variable over the Baltic and central Europe. Well-marked cyclonic gale over northern half of the Mediterranean and Adriatic. Northerly wind subsiding in our Islands later, and backing to South-West on our north-west coasts. Southerly wind falling calm over Finland.

Barometer still high both over western and eastern Europe, and relatively low in a broad band stretching north and south, from Lapland to the Mediterranean and south-eastern Europe. Definite minima found in latter band, one near Uleaborg, another over the Baltic provinces, and a third over Gulf of Genoa and northern parts of the Adriatic. All these disturbances becoming shallower later and undergoing great modification. High-pressure area in west moving southwards, and barometer falling in Ireland.

Friday, 29th November.

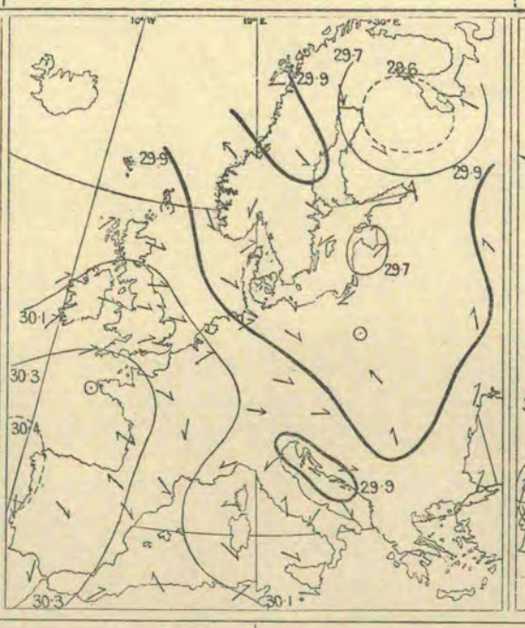
Temperature and Weather.

8 a.m.

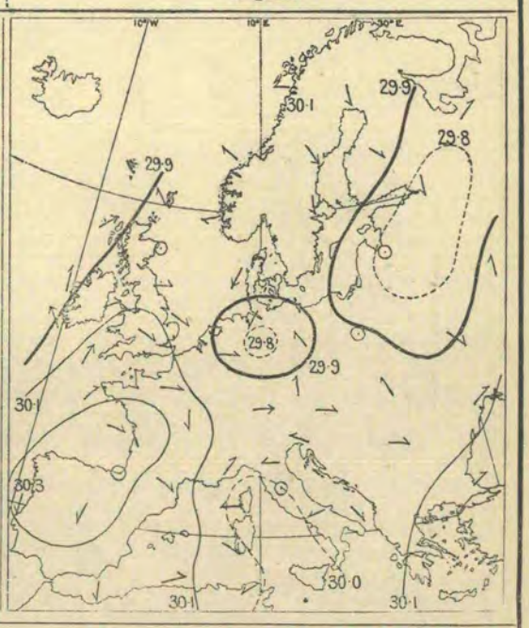


Barometer and Wind.

8 a.m.



6 p.m.



Weather becoming much milder and rather rainy over the west of our Islands, fine over Scandinavia, England, and France; changeable and unsettled elsewhere, especially over Germany and Russia. Further large falls of rain later over the southern and south-eastern shores of the Mediterranean, and considerable quantities in some parts of Austria; falls in Ireland slight.

Temperature risen decidedly over the British Islands, fallen at many Continental stations. Morning readings low, except in the extreme west, south, and south-east; below 30° over central Europe, Poland, western Russia, the Baltic, and northern parts of Scandinavia; above 40° at our own western stations again. Daily maxima exceeding 50° in Ireland, the south of France, and north of Italy, and exceeding 60° in the south of Italy and at some of the Algerian stations.

Wind moderate to light and very variable over the Continent as a whole, but strong from South over southern Russia. Chiefly North-Westerly in France and England, but South-Westerly to Southerly in Ireland and the west of Scotland. Latter current becoming strong on our western coasts later, but not spreading much over England.

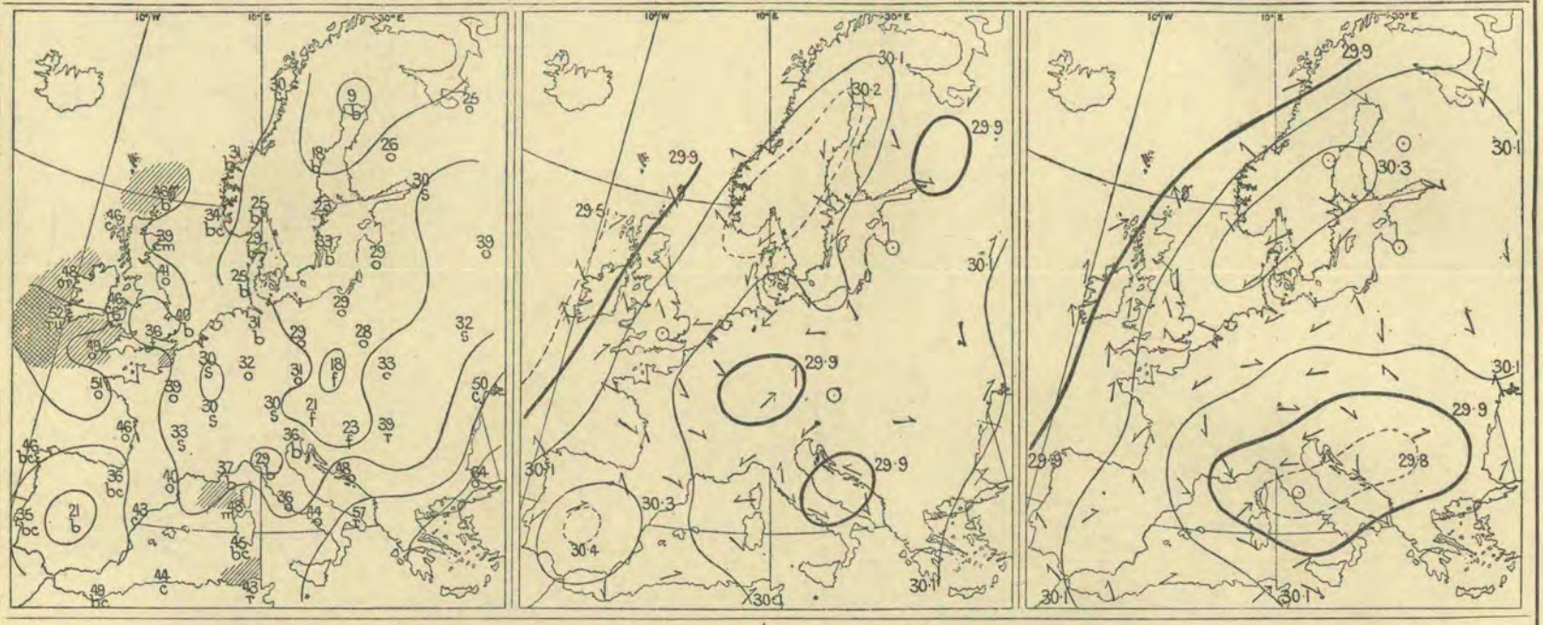
Barometer still keeping up (30·0 ins. to 30·2 ins.) over south-east of Russia, and rising over northern, central, and western Europe also. Falling decidedly at our own western stations. Shallow depressions over Mediterranean, the Baltic Provinces, and Finland not yet filled up. High pressure area, recently lying off our western coasts, moving steadily to the southward and south eastward, and depressions beginning to skirt our extreme western coasts in a northerly direction. Large low-pressure system over northern and central Europe filling up decidedly.

II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 30th November.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather mild and showery in the western parts of the United Kingdom, fair in the east and on the Continent, with fog in many places (notably in Austria); rain at Hermanstadt, snow over France and south Germany, and at some Russian stations. Considerable rains again in Italy and Tunis, and also in the west of Ireland; snow not heavy in France and Germany.

Temperature becoming very low over the eastern, central, and south-western parts of the Continent, but showing a further rise in the west. Decided frost over the northern and central countries, over central Spain, and at Florence, but morning readings exceeding 50° in the west of Ireland, at Brest, and over the extreme south-east of Europe. High temperatures in west not spreading much inland; night very cold over Continent and central England.

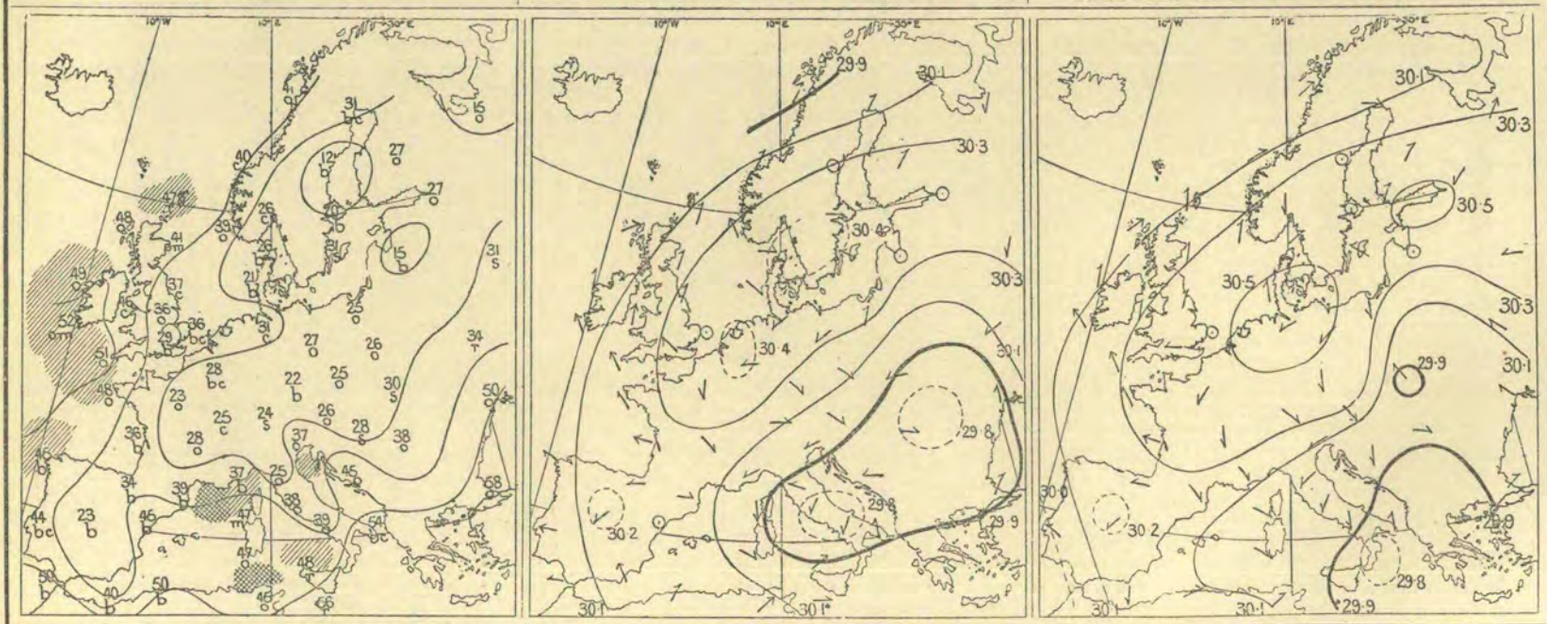
Wind Southerly, moderate to strong, at our western and northern stations; Northerly to eastward of North Sea; very variable over France, Germany, Austria, and Russia, and of little strength. Not much change later, except over the Mediterranean, where a strong Westerly wind set in.

Barometer risen except in the extreme west, south-west, and south; most over Scandinavia. Anticyclone over Spain, and another being formed over Scandinavia and North Sea, and spreading rapidly. Shallow low pressure areas over Finland, south Germany, and Italy; the two former filling up later, that in south growing larger. Spanish anticyclone dispersing, and northern one becoming general.

Sunday, 1st December.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fair or fine almost everywhere, but unsettled in Scotland and Norway, and also over southern and south-eastern Europe. Heavy snow in different parts of Austria later, and considerable rain falling in Norway and the north of Scotland. Weather elsewhere fine, with local fogs.

Temperature still high in extreme west of our Islands and over the extreme south-eastern countries of Europe, low elsewhere; frost very general over the inland districts and in some places hard. Following night very cold.

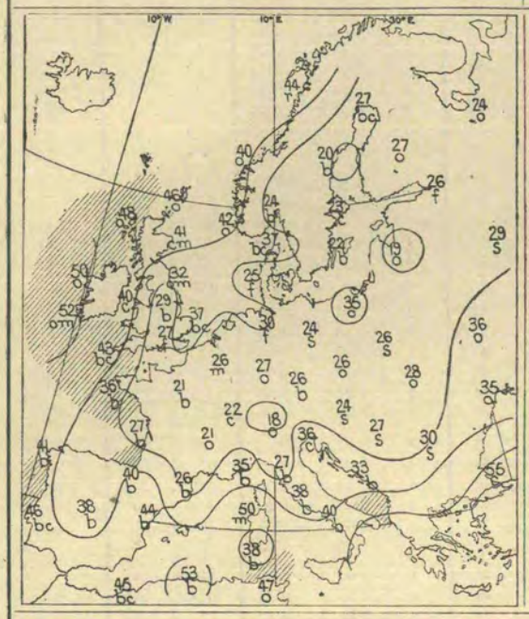
Wind still Southerly on the Atlantic coasts of our Islands and in Scotland, and blowing strongly in extreme west; South-Easterly in England and over the Bay of Biscay; South-Westerly in north-west of Norway. Very variable at most continental stations, but cyclonic circulations of moderate force prevailing over south-eastern Europe and Italy.

Barometer high (30·2 ins. to 30·4 ins.) in large anticyclone stretching from Finland and the north of Russia across the Baltic, Germany, and France to Spain; moderate gradients for Southerly winds in the west and north-west, and for North-Easterly and varying winds in south-east. Barometer rising within the anticyclone all day, and rise spreading westwards. Depression over south-eastern Europe passing away to south-eastwards.

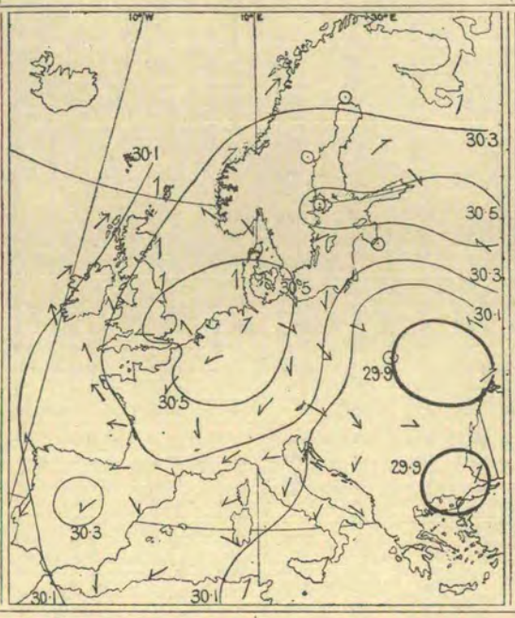
II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 2nd November.

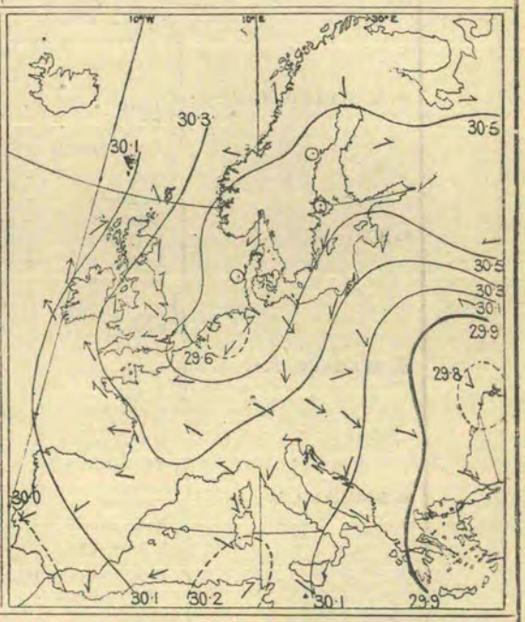
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather fine in most parts of Great Britain, as well as in Sweden, Denmark, the Netherlands, France, Italy, Spain, and Algeria. Dull elsewhere, with fog over the south-east of England and the south of Denmark, and heavy snow over Poland and Austria, as well as at Berlin. Snow falling during day at many of the German and Austrian stations.

Temperature highest, 50° or a little above, in the west and south of Ireland, the extreme south of Italy, and some parts of Algeria; lowest, 25° or less, over Sweden, northern Russia, and the greater part of central Europe. Frost prevailing over the whole of northern, eastern, and central Europe, as well as over the inland parts of England. Sharp frost occurring generally at night. Sheltered thermometer falling to 22° at Oxford and Cambridge.

Wind light from the North-Eastward or Eastward over France, Spain, and Italy; moderate from the South-Eastward over the greater part of England; strong from the Southward in the west and south of Ireland, with a gale at Mullaghmore. Light Southerly in the north and east of Great Britain; South-Westerly in the west of Norway and the north of Russia. Cyclonic circulation of moderate to strong breezes reported over Austria, eastern Germany, and the south of Russia.

Barometer highest, 30·5 ins. and upwards, in a large anticyclone lying over the Netherlands, the greater part of Denmark and Germany, and the south-east of England. Lowest, 29·9 ins. and less, in two depressions, one of which lay near Constantinople, while the other extended from Galicia to the northern shores of the Black Sea; somewhat low, 30·1 ins. and less, over the west coasts of Ireland and Scotland. No important change occurring during day.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During this week cold winterly weather has become general over nearly the whole of Europe. At first there were two high-pressure areas— one over the Atlantic and western coasts of Europe, the other over eastern and south-eastern Russia; these were separated by a broad low-pressure band, covering nearly the whole of Europe, and containing several distinct minima. North-Westerly and Northerly gales and strong winds, with snow, hail, and rain showers and thunder, were felt over the north-western and western countries, while Southerly winds, rain, and some snow prevailed in the east. The two high-pressure areas subsequently dispersed, and another was formed over Scandinavia (on the 30th) which subsequently spread over nearly the whole of Europe, causing fair and very frosty weather. Over south-eastern Europe, however, depressions appeared locally, and spreading northwards caused heavy falls of snow in Austria, and subsequently in north Germany also.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
November 25th - - -	Llandudno - - - -	62	37	52·7	40·4	46·6	+ 3·1	39	4	3	1·04	+0·24	10·7	19

III.—DATA from which the SUMMARY on page 283 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ⚓	48	28	43·7	33·9	38·8	− 1·9	5	30	6	0·63	−0·36	*	*
	Stornoway	49	27	43·6	35·7	39·7	− 0·7	4	24	7	0·57	−0·55	3·2	7
	Wick ⚓	48	29	42·1	35·0	38·6	− 1·3	0	25	6	0·95	+0·25	*	*
	Lairg	47	26	41·9	32·8	37·4	− 0·8	0	32	5	0·39	−0·56	*	*
	Glencarron ⚓	49	26	41·1	33·8	37·5	0·0	0	32	6	0·90†	−1·39	5·0	10
	Fort Augustus ⚓	49	23	42·1	34·0	38·1	− 0·5	0	28	2	0·12†	?	2·4	5
1. SCOTLAND, E.	Nairn	49	29	42·6	33·4	38·0	− 1·0	2	31	3	0·09	−0·42	*	*
	Aberdeen	45	29	40·6	34·1	37·4	− 1·2	0	32	2	0·29	−0·46	11·8	24
	Braemar ⚓	43	25	40·1	32·0	36·1	+ 1·7	0	41	3	0·14	−0·65	3·2‡	6‡
	Ochtertyre ⚓	43	26	40·4	33·3	36·9	− 0·3	0	36	4	0·12	−0·88	*	*
	Leith	46	30	42·7	32·6	37·7	− 1·3	2	34	0	—	−0·48	*	*
	Marchmont ⚓	42	26	39·0	30·3	34·7	− 2·4	0	51	2	0·07	−0·73	6·8	13
2. ENGLAND, N.E.	Alnwick Castle	42	29	39·0	32·1	35·6	− 3·4	0	45	2	0·03	−0·72	*	*
	Durham	42	28	37·7	30·4	34·1	− 4·9	0	55	2	0·03	−0·67	8·4	16
	Shields	43	28	39·1	31·3	35·2	− 3·0	0	48	1	0·02	−0·60	*	*
	Scarborough ⚓	41	28	38·7	31·8	35·3	− 4·4	0	47	3	1·49	+0·77	3·7	7
	York	43	27	39·0	30·4	34·7	− 5·0	0	51	2	0·08	−0·44	4·0	7
	Spurn Head	43	30	39·9	33·0	36·5	− 3·5	0	39	4	0·54	?	*	*
3. ENGLAND, E.	Hillington ⚓	40	22	37·0	28·1	32·6	− 6·7	0	66	5	0·54	−0·08	7·5	14
	Yarmouth	43	28	40·1	31·9	36·0	− 4·0	0	42	4	0·63	−0·08	*	*
	Geldeston	43	25	39·4	30·3	34·9	− 5·2	0	50	4	0·50	−0·10	11·1	25
	Cambridge	45	23	38·6	27·4	33·0	− 6·5	0	63	2	0·20	−0·26	11·2	20
	Rothamsted	44	?12	37·3	26·2	31·8	− 7·2	0	71	2	0·01	−0·59	*	*
	Ingatestone	43	26	38·0	28·7	33·4	− 6·4	0	60	2	0·22	−0·30	*	*
4. MIDLAND	Bawtry (Hesley Hall)	43	25	39·7	29·9	34·8	− 5·4	0	50	1	0·03	−0·49	5·6‡	10‡
	Loughborough	43	25	39·4	29·4	34·4	− 4·6	0	53	1	0·07	−0·46	13·9‡	25‡
	Cheadle ⚓	41	24	36·7	27·8	32·3	− 6·4	0	68	2	0·02	−0·72	*	*
	Churchstoke ⚓	42	26	39·5	28·6	34·1	− 4·9	0	55	2	0·03	−0·69	17·0	31
	Hereford ⚓	44	26	40·2	30·1	35·2	− 4·4	0	48	0	—	−0·55	*	*
	Cirencester	43	24	38·6	28·0	33·3	− 5·9	0	61	1	0·01	−0·69	22·2	40
	Oxford	45	24	39·3	29·0	34·2	− 5·9	0	55	1	0·01	−0·49	17·3	31
5. ENGLAND, S.	London	47	27	40·0	28·7	34·4	− 6·0	0	53	1	0·02	−0·47	5·5‡	10‡
	Strathfield Turgiss ⚓	45	19	38·7	26·7	32·7	− 7·3	0	65	0	—	−0·55	*	*
	Dungeness	48	23	39·3	29·3	34·3	− 8·2	0	54	1	0·08	−0·72	*	*
	Hastings (St. Leonard's)	45	30	39·0	31·9	35·5	− 6·8	0	46	1	0·08	−0·62	15·8	28
	Southampton	45	28	41·5	31·2	36·4	− 4·2	0	39	0	—	−0·70	17·4	31
	Hurst Castle	47	30	41·7	33·9	37·8	− 5·2	0	29	0	—	−0·68	*	*
	Stowell ⚓	45	27	40·5	30·0	35·3	− 4·8	0	47	0	—]	?	16·9‡	30‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	49	29	43·4	37·5	40·5	− 0·1	4	17	7	1·21†	−1·00	*	*
	Glasgow	45	28	40·9	34·4	37·7	− 1·9	0	30	0	—	−0·90	9·2	18
	Ardrossan	48	31	44·1	37·0	40·6	+ 1·0	6	19	0	—	−0·91	*	*
	Glenlee ⚓	44	20	39·8	30·7	35·3	− 2·7	0	47	3	0·15	−1·23	*	*
	Douglas (Isle of Man)	50	30	45·1	36·4	40·8	− 0·8	9	22	2	0·28	−0·77	16·0	30
7. ENGLAND, N.W.	Newton Reigny (Penrith)	43	24	37·9	29·3	33·6	− 5·4	0	59	1	0·01	−0·79	17·0	33
	Barrow-in-Furness	48	31	41·1	34·7	37·9	− 4·1	0	29	1	0·16	−0·70	*	*
	Stonyhurst	41	27	38·2	31·9	35·1	− 4·4	0	48	1	0·08	−1·02	13·1	24
	Blackpool ⚓	45	31	41·9	33·6	37·8	− 4·2	0	29	1	0·14	−0·64	14·0	26
	Manchester	42	28	37·7	31·3	34·5	− 5·7	0	53	3	0·11	−0·74	*	*
	Liverpool Obsy (Bidston)	43	31	40·4	34·7	37·6	− 3·6	0	31	2	0·18	−0·44	*	*
	Llandudno ⚓	49	33	44·3	37·0	40·7	− 2·1	6	19	1	0·06	−0·72	?	?
	Holyhead	49	35	45·0	39·6	42·4	− 2·0	13	7	4	0·34	−0·54	*	*
8. ENGLAND, S.W.	Llandovery	45	?13	39·3	23·9	31·6	− 9·4	0	73	2	0·32	−0·88	*	*
	Pembroke	50	32	45·9	39·6	42·8	− 1·1	16	7	4	0·36	−0·56	9·8	18
	Arlington (N. Devon)	45	27	40·9	32·4	36·7	− 4·5	0	37	4	0·38	−1·04	*	*
	Cullompton ⚓	47	25	42·5	30·2	36·4	− 5·6	1	42	3	0·24	−0·56	14·1	25
	Falmouth	50	32	45·9	38·6	42·3	− 2·7	16	10	4	0·54	−0·70	10·2	18
	Plymouth	48	30	43·0	34·8	38·9	− 4·9	3	26	3	0·24	−0·58	10·7	18
	Prawle Point	49	29	44·1	35·3	39·7	− 4·0	6	25	4	0·09	?	*	*
9. IRELAND, N.	Malin Head	49	31	44·6	37·6	41·1	+ 0·1	7	17	4	0·43	?	*	*
	Londonderry	50	31	43·5	36·9	40·2	− 0·8	4	19	4	0·61	−0·37	*	*
	Mullaghmore	53	33	47·6	39·9	43·8	+ 1·8	21	6	4	0·53	−0·53	*	*
	Belmullet	51	33	46·7	40·1	43·4	− 0·7	18	5	6	1·15	?	*	*
	Markree Castle	49	29	44·2	36·0	40·1	− 0·9	6	23	5	0·61	−0·19	6·1	11
	Brookeborough	49	23	42·2	32·9	37·6	− 2·5	1	32	2	0·56	?	*	*
	Armagh	51	26	43·6	34·4	39·0	− 2·0	4	28	2	0·28	−0·36	9·7	18
	Donaghadee	50	32	44·4	36·9	40·7	− 1·1	7	20	4	0·32	−0·35	*	*
	Edgeworthstown	50	23	42·7	32·7	37·7	− 2·5	2	33	5	0·25	−0·56	*	*
10. IRELAND, S.	Dublin	50	30	43·9	36·0	40·0	− 2·0	5	23	0	—	−0·53	16·4	30
	Parsonstown	51	28	45·1	35·3	40·2	− 0·6	9	26	2	0·03	−0·62	10·3	19
	Kilkenny	51	25	44·7	33·1	38·9	− 1·9	8	33	3	0·08	−0·56	*	*
	Waterford	51	24	45·9	34·6	40·3	− 2·5	11	29	4	0·27	−0·64	*	*
	Roche's Point	52	30	47·7	39·6	43·7	0·0	22	7	4	0·53	−0·54	*	*
	Valencia	53	33	49·3	41·6	45·5	− 0·5	26	1	6	1·59	+0·30	6·1	11
	Killarney	54	26	47·5	38·2	42·9	− 1·1	22	11	5	0·81	?	*	*
	Foynes	52	32	46·7	39·1	42·9	+ 0·6	18	8	3	0·13	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	52	36	48·4	42·3	45·4	− 2·3	24	0	2	0·20	−0·69	*	*
	Jersey	50	33	44·9	36·0	40·5	− 4·0	8	23	4	0·48	−0·51	17·0	29

Stations marked ⚓ are in connection with the Royal Meteorological Society, and those marked ⚓ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 49.] *Third Series.* WEEK ENDING MONDAY, 9TH DECEMBER, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 294.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	53	20	45·2	35·1	40·3	1 above.	9	+ 2	27	− 3	2089	+218	636	− 49
	1. SCOTLAND, EAST	54	24	43·7	32·0	38·1	1 above.	5	− 3	38	+ 1	2396	+ 18	703	− 37
	2. ENGLAND, N.E.	53	25	41·2	32·0	36·8	2 below.	0	−10	36	+ 3	2353	− 6	604	− 35
	3. ENGLAND, EAST	50	22	38·9	30·2	34·7	5 below.	0	−12	51	+18	2916	− 29	766	+ 95
	4. MIDLAND COUNTIES	52	21	39·1	28·3	33·9	5 below.	0	−12	57	+21	2876	− 30	725	+ 30
	5. ENGLAND, SOUTH	51	18	40·4	30·3	35·5	5 below.	0	−17	46	+20	3237	+ 25	546	+ 46
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	55	21	45·2	35·3	40·4	1 above.	9	− 3	27	0	2576	+ 56	454	− 91
	7. ENGLAND, N.W.	53	24	41·7	32·8	37·5	3 below.	0	−13	32	+ 6	2725	+ 35	457	− 44
	8. ENGLAND, S.W.	52	22	44·0	33·2	38·8	4 below.	6	−14	34	+30	3028	−102	392	+ 91
	9. IRELAND NORTH	53	25	45·9	36·1	41·2	0 (average).	11	− 4	25	− 1	2691	+ 69	368	−114
	10. IRELAND, SOUTH	55	26	47·6	37·5	42·7	0 (average).	24	+ 2	13	− 9	3013	− 10	281	− 56
	— CHANNEL ISLANDS	52	30	46·0	38·0	42·2	4 below.	18	−14	11	+ 5	3576	+108	96	− 10

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 294.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	5	15	3 more.	228	+11	39·2	−1·6	5	10	946	−260	22	− 6
	1. SCOTLAND, EAST	4	4	3 less.	186	+ 3	24·9	−6·1	7	14	1204	−168	28	− 4
	2. ENGLAND, N.E.	5	8	1 more.	173	− 6	23·6	−3·0	1	2	1112	−137	26	− 3
	3. ENGLAND, EAST	5	5	1 less.	177	− 7	25·1	+0·1	4	9	1304	−216	31	− 5
	4. MIDLAND COUNTIES	4	5	1 less.	165	−12	25·8	−2·5	3	5	1195	−168	28	− 4
	5. ENGLAND, SOUTH	4	5	1 less.	162	− 7	24·6	−2·2	7	12	1274	−184	30	− 4
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	4	12	2 less.	193	− 2	38·8	−7·0	9	17	1267	− 46	30	− 1
	7. ENGLAND, N.W.	3	9	1 more.	182	− 1	30·1	−3·9	4	7	1223	− 86	29	− 2
	8. ENGLAND, S.W.	3	6	4 less.	182	−12	33·4	−8·4	12	21	1445	−131	34	− 3
	9. IRELAND, NORTH	4	10	2 more.	216	− 1	36·1	+1·5	9	18	1094	−150	26	− 3
	10. IRELAND, SOUTH	4	9	0 (average).	194	− 8	34·5	−3·1	10	20	1347	− 72	32	− 1
	— CHANNEL ISLANDS	4	7	2 less.	194	−17	28·4	−3·8	8	13	1684	−176	40	− 4

General Remarks.

Weather continued fair and dry during the earlier part of the period, but subsequently became very changeable and unsettled, with frequent falls of rain, snow, or sleet.

Temperature has continued below the mean over England, the deficit having ranged from 3° to 5°, but in Scotland it has been 1° above, while in Ireland the mean has been just equalled. The highest of the maxima, which were recorded very generally on the 9th, varied from 55° in "Scotland, W." and "Ireland, S." to 50° in "England, E." The lowest of the minima were registered during the earlier days of the period, when the thermometer fell to 18° in "England, S.", 20° in "Scotland, N.", 21° in the "Midland Counties", and to between 22° and 26° in nearly all other districts. In the "Channel Islands", however, the lowest reading was 39°.

Rainfall has varied considerably in the different districts, but taken as a whole there has been no material departure from the mean.

Bright sunshine shows a very general decrease, the percentage of the possible amount of duration having ranged from 2 to 12 over the greater part of England, from 10 to 17 in Scotland, and from 18 to 21 over Ireland and the south-west of England.

Barometer and Wind.—During the earlier part of the period the distribution of pressure over our Islands continued anticyclonic, and the winds generally light from the Eastward in the south, and moderate from the South-Eastward and Southward in the west and north. On the 6th and subsequent dates, however, depressions moved eastwards over, or to the northwards, of our extreme northern coasts, while on the 7th a small subsidiary disturbance travelled in a similar direction over the south of England. Fresh to strong squally winds from between South-West and North-West consequently became general over the greater part of the Kingdom, but on the 7th the wind at most of our western stations blew from the Northward.

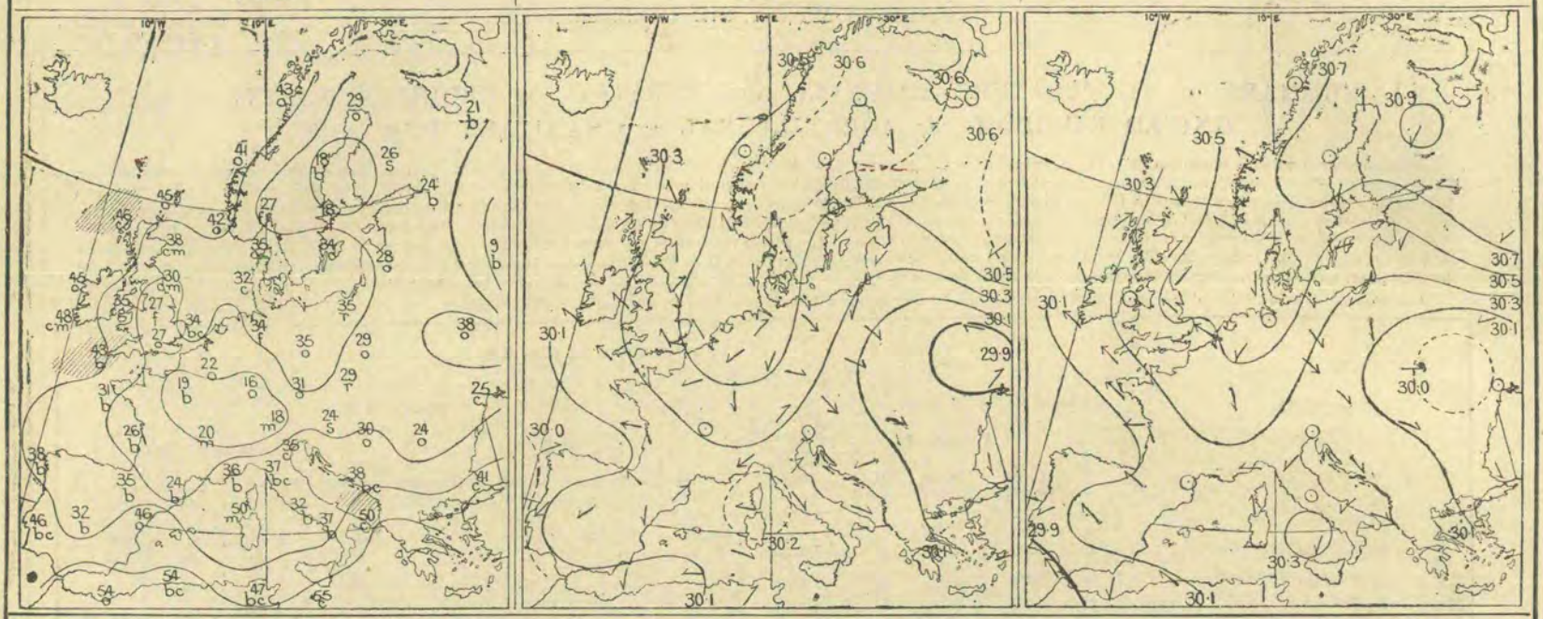
60939. 350.—12/89. Wt. 36. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 3rd December.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine over Great Britain, France, and southern Europe, as well as in central Russia. Cloudy or overcast elsewhere, with rain at Neufahrwasser and Cracow, and snow in Finland and some parts of Austria. Snow setting in later over North Germany.

Temperature highest, 50° or a little above, on the southern shores of the Mediterranean; high, 45° and upwards, in the Hebrides and south of Ireland. Lowest, about 10° Faht. over central Russia; low, 20° or less, over central France, and western Germany. Frost prevailing over the whole of northern and central Europe, as well as in England, France, central Spain, and the north of Italy. Thermometer remaining below 32° all day in some parts of England, France, and Germany, but rising above 55° in Algeria and the south of Italy, as well as on the coasts of the Iberian peninsula.

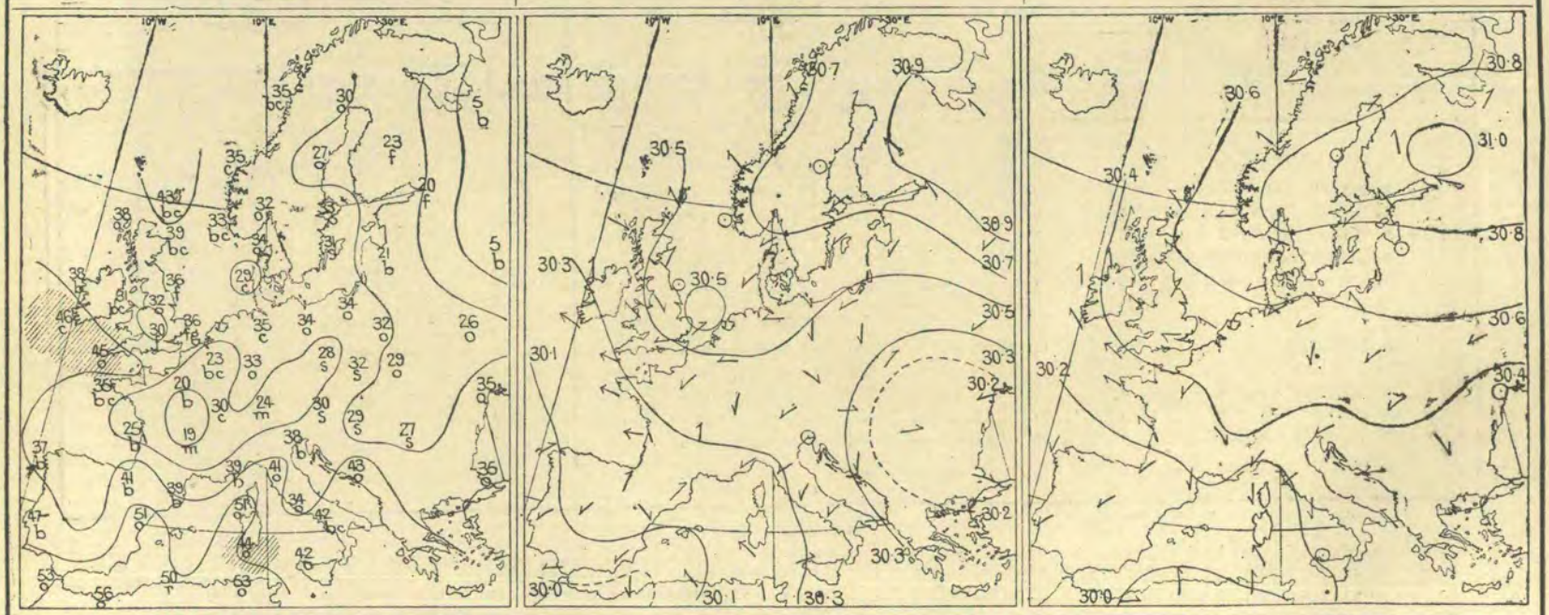
Wind Easterly or North-Easterly in France and Spain, South-Easterly in England and Ireland, and Southerly or South-Westerly in Scotland. Variable in Scandinavia and Denmark, as well as in Italy and Algeria; decided cyclonic circulation shown over eastern Europe. Light or moderate in force generally, but South-Easterly breezes blowing freshly in the south-west of our Islands, and North-Westerly wind blowing strongly in Austria. Strong South-Easterly breeze setting in later over Algeria and the extreme south of Spain.

Barometer highest, 30·6 ins. and upwards in a large anticyclone lying over Sweden, Finland, and Central Russia. Lowest, 29·9 ins. and less, in a large depression lying over eastern Austria and the south of Russia; somewhat low, 30·0 ins. and less, in a large area lying to the westward and south-westward of the Iberian peninsula. No important change occurring during day.

Wednesday, 4th December.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine in nearly all parts of western Europe as well as in the northern and central parts of Russia, but foggy at some of the English stations; slight snow falling at Loughboro' and Cambridge. Dull elsewhere, with fog over Finland, snow in Austria and at Constantinople, and rain in Algeria. Snow falling later at Moscow.

Temperature highest, 50° and upwards, in the extreme south and east of Spain and on the Algerian coasts; lowest, 10° and less, over northern and central Russia. Frost prevailing over the whole of northern, central, and eastern Europe, as well as in most parts of Great Britain and France. Thermometer remaining below 35° all day in many parts of England and France, but rising above 50° in Spain and the south of Italy, and above 60° at most of the Algerian stations.

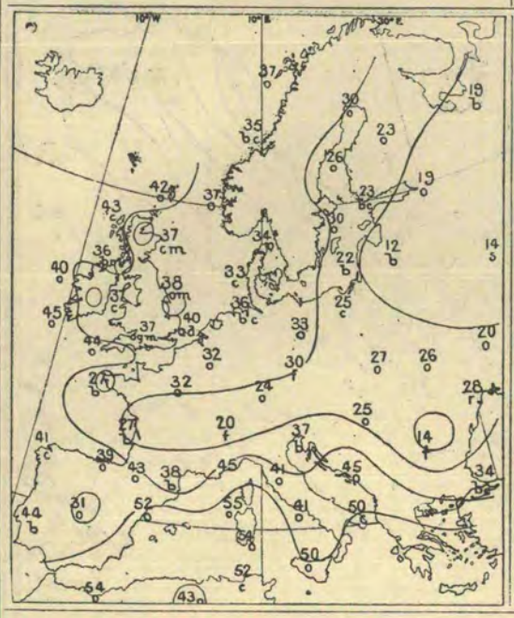
Wind light and moderate from the Eastward (South-East to North-East) over the greater part of Europe, but fresh and strong in force in the extreme south and south-west of our Islands. Light from the Northward and North-Westward over Eastern Germany; variable over south-eastern Europe; Southerly in Algeria. Light North-Easterly breezes setting in later over the whole of central and eastern Europe.

Barometer highest, 30·9 ins. and upwards, over northern Russia; high, 30·6 ins. and upwards, in a large anticyclone covering the whole of northern Europe. Lowest, 30·0 ins. and less, in a depression lying over Morocco; low, 30·2 ins. and less, in a large and complex area lying over south-eastern Europe. Slight rise taking place during day in most parts of Western Europe; evening readings exceeding 31·0 ins. over Finland.

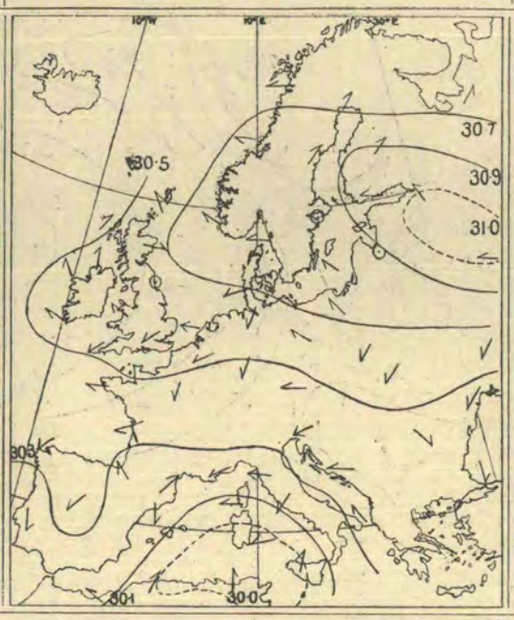
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 5th December.

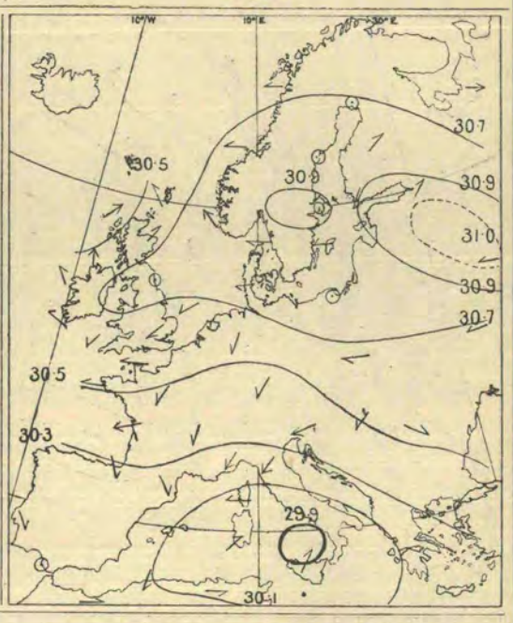
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine in Ireland and Scotland, as well as over the Baltic and the western part of France and Spain; dull elsewhere, with fog or mist in many places, rain at Pesaro, and with snow at Moscow. Rain falling later in Algeria and the south of Italy, and snow at Archangel and Turin.

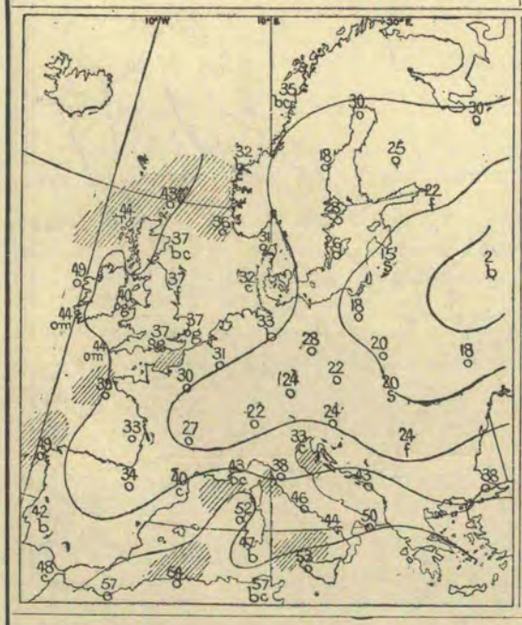
Temperature, highest, 50° and upwards, over the central and southern parts of the Mediterranean; lowest, 20° or less, over the Baltic provinces and central and northern Russia. Frost prevailing over the whole of northern, central, and eastern Europe, and also over the central parts of Scotland, Ireland, and Spain. Daily maxima below 32° in many parts of France and Germany, and below 40° at several of the English stations, but thermometer rising above 50° in Spain and Italy, and above 60° in Algeria.

Wind light or moderate from the Eastward or North-Eastward over by far the larger portion of the Continent, but South-Westerly over the northern parts of Scotland, Sweden, and Russia, and chiefly southerly in Algeria. Subsequently increasing to a strong breeze from South-West in the Hebrides, and from the Eastward or North-Eastward in Italy.

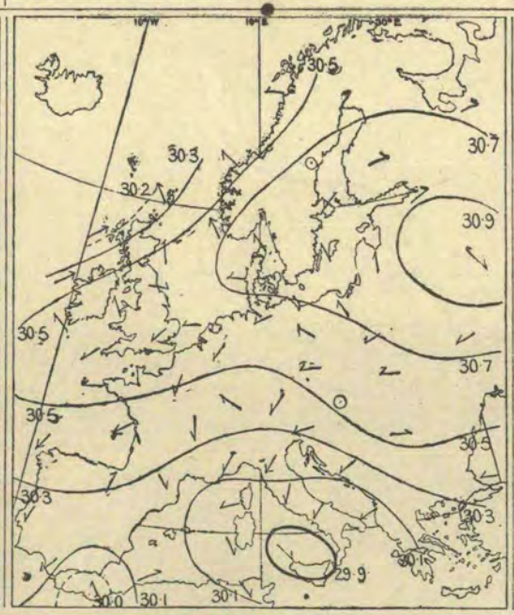
Barometer, highest 31·0 ins. and upwards in Central Russia; high, 30·5 ins. and upwards, over all the more northern, central, and eastern parts of Europe. Lowest, 30·0 ins. and less, in a large shallow depression lying over Sardinia, Tunis, and the adjacent parts of the Mediterranean. Depression subsequently moving northwards; another disturbance approaching the north-west of Scotland.

Friday, 6th December.

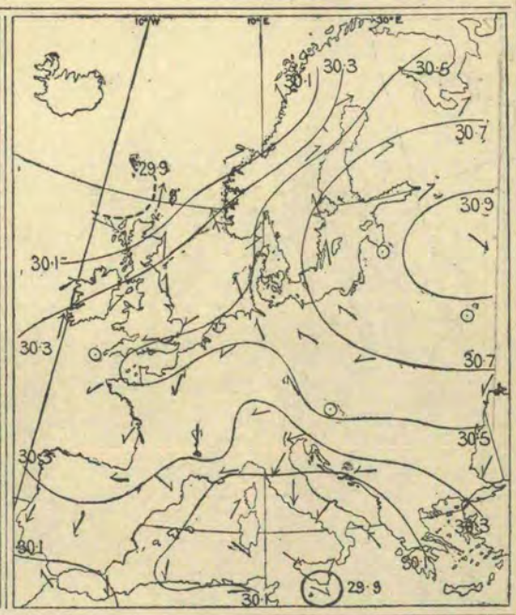
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather cloudy or overcast generally, with mist or fog in many parts of England and Ireland, rain at Stornoway, and also at Naples, and snow at some of the German, Austrian, and Russian stations. Sky clear over central Russia, as well as in Sardinia and Tunis. Heavy rain falling later at many of our own western and northern stations, and snow at Brussels.

Temperature highest, 50° and upwards, on the southern shores of the Mediterranean; lowest, 5° or less, over central Russia. Frost still prevailing over the whole of northern, eastern, and central Europe, but weather becoming milder in our Islands. Daily maxima varying between 45° and 51° in the west and extreme north of the United Kingdom, but thermometer remaining below 40° over the central and south-eastern parts of England, and below 32° at some of the French and German stations.

Wind light or moderate from the Eastward or North-Eastward over by far the larger part of the Continent, but fresh or strong from the Southward or South-Westward in the north and north-west of our Islands, and light to fresh from the South-Eastward in the west of Norway. Light from the North-Westward in Sardinia, Sicily, and Tunis. No important change occurring during day.

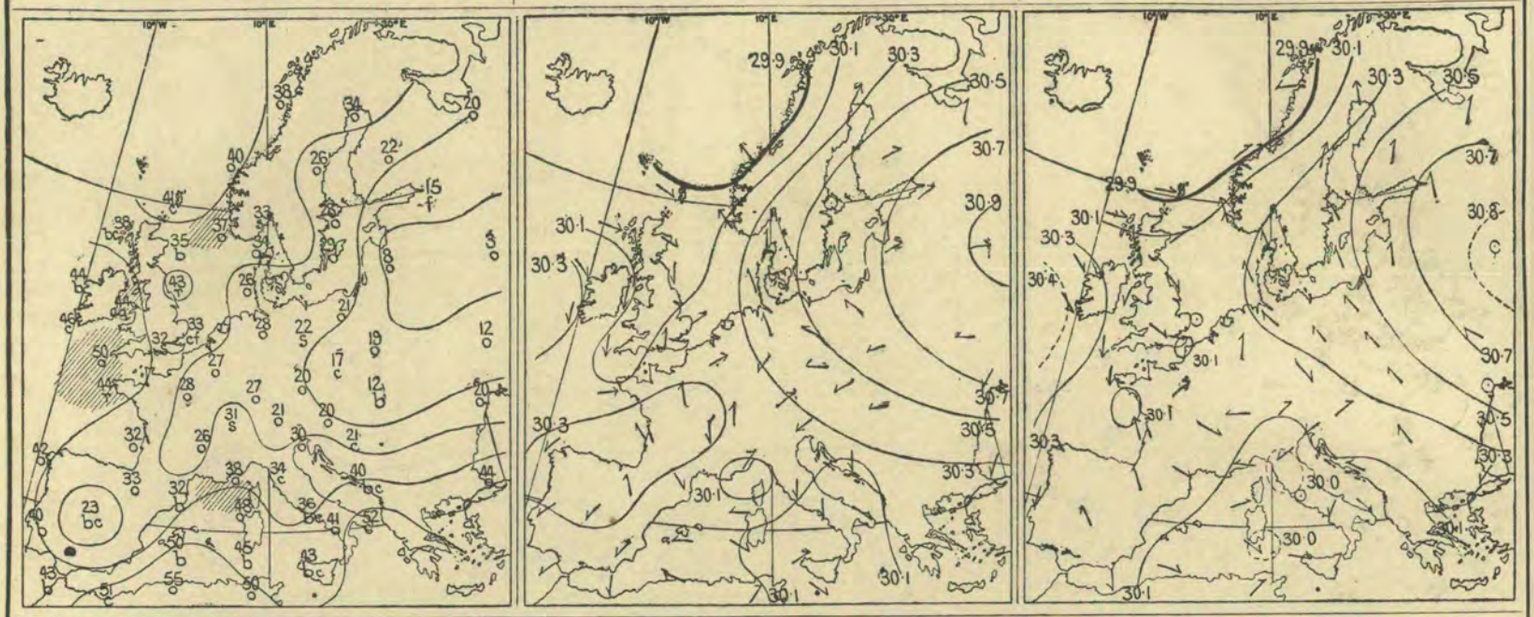
Barometer highest, 30·9 ins. and upwards, over central Russia; high, 30·5 ins. and upwards, over nearly the whole of western, northern, central, and eastern Europe. Lowest, 29·9 ins. and less, in a depression lying over Sicily; low, 30·0 ins. and less, in another lying over Morocco; 30·1 ins. and less in a third disturbance approaching the north of Scotland. Brisk fall of barometer taking place later in all the more western and northern parts of the United Kingdom.

II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 7th December.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine on the shores of the Mediterranean and the extreme west and north-west of our Islands only; cloudy or overcast elsewhere, with a steady fall of cold rain and wet snow over England. A good deal of rain and sleet over western Europe later, and a very heavy fall reported locally at Lesina; local snow showers in some parts of northern, eastern, and central Europe.

Temperature very low over Russia, and rather so in other places, except in the west of our Islands, where a decided rise had set in. Morning readings as low as 3° Fabt. at Moscow and 8° at Helsingfors, and below the freezing point over central France; but as high as 42° to 46° on the Irish coasts, and 50° at Scilly. Daily maxima 50° at Scilly, 51° at Belmullet, and exceeding 60° in the extreme south of Italy and on the Algerian coasts.

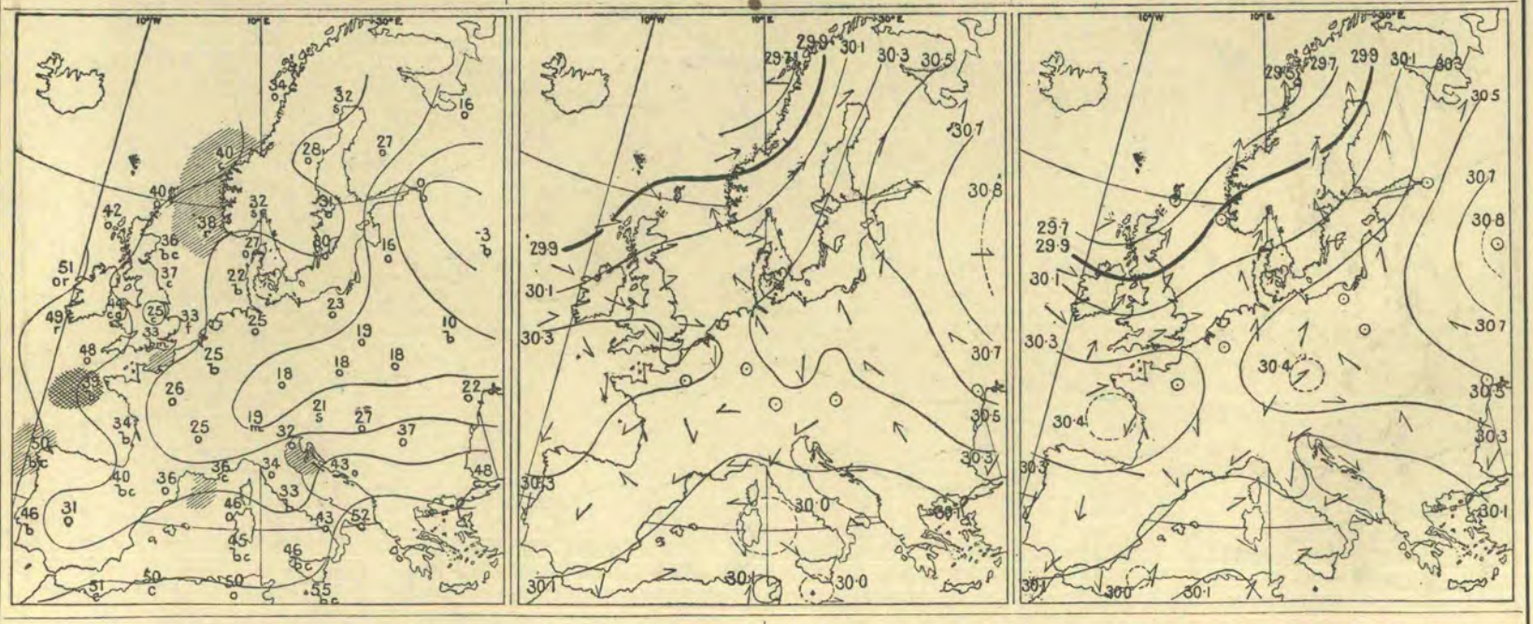
Wind Northerly, moderate, in the western parts of the British Islands, Southerly, light, over England, South-Easterly in Norway and Denmark as well as over Russia, Southerly in the Baltic. Variable breezes reported on the shores of the Mediterranean. Northerly winds in the west spreading Eastwards later, but not reaching our eastern stations till night; little change elsewhere.

Barometer highest, 30·5 ins. to 30·9 ins. over Russia, and exceeding 30·3 ins. in another high pressure system over Spain and the south-west of France, as well as in the west of Ireland. Lowest, 29·9 ins. and less, in a large depression off the west of Norway, and very little above that value in a long "V"-shaped disturbance—spreading thence in a southerly direction over England—with a small disturbance (30·0 ins. and less) over Devonshire. Low pressure areas moving north-eastwards later, and barometer rising in west.

Sunday, 8th December.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine and bright over Russia, fair, but hazy or foggy at nearly all the English stations, dull elsewhere, with rain in Ireland and the west of Scotland, snow at several of the Continental stations later, and rain in most parts of the United Kingdom; first in the west and north-west, and later on in the east also.

Temperature changing very irregularly in the west; very low (− 3° F. to + 15° F. over Russia), and below the freezing point at first even over England; high in the far west, and exceeding 50° at Belmullet. Higher temperatures in west, spreading eastwards later, but hard frost continuing over eastern Europe.

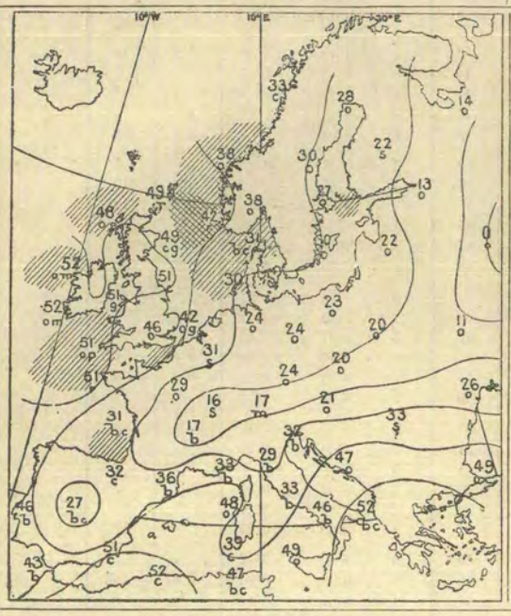
Wind South-Westerly and Westerly over the western and northern parts of our Islands and at Christiansund, South-Easterly over Russia and the Baltic; very variable breezes over Germany and France, and Easterly on the northern shores of the Mediterranean. Northerly breezes reported locally over the Channel and west of France as well as in Italy. Westerly winds becoming general over the United Kingdom later, and Southerly gales both on the north-eastern shores of the North Sea and in the Baltic.

Barometer still very high (30·3 ins. to 30·8 ins.) over Russia, and as high as 30·3 ins. and more over the south-west of our Islands, the north of France, and Bay of Biscay. Lowest (29·7 ins. and less) off the north-west of Norway, and below 30·0 ins. in a shallow depression over the Mediterranean. Latter system filling up later, but a new one in the north-west advancing north-eastwards towards Scotland and the Shetland Isles.

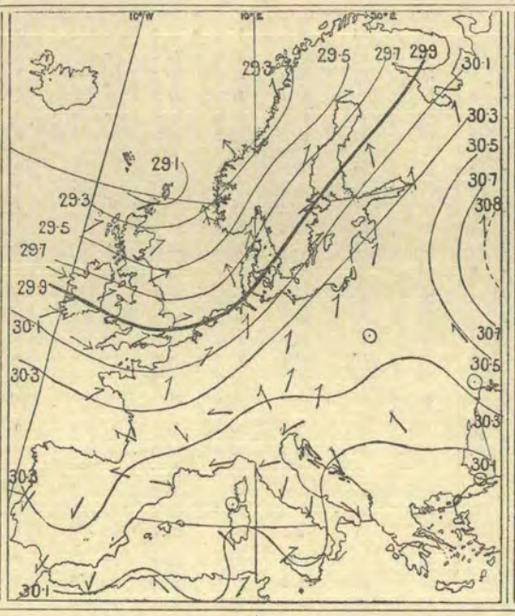
II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 9th December.

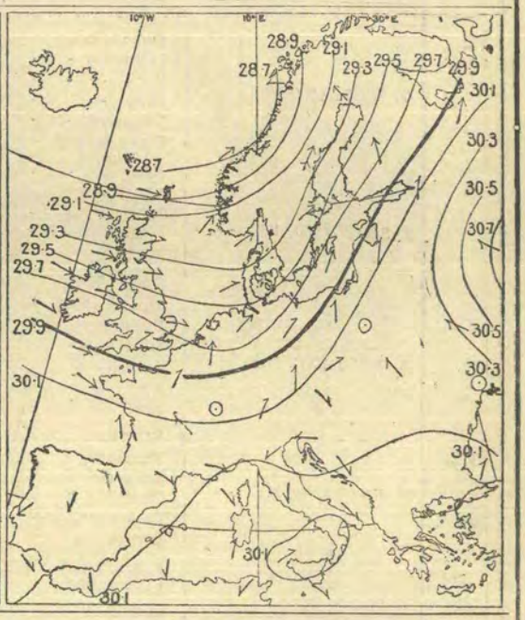
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather very fine over southern Europe, cloudy or overcast elsewhere, with showers in many places—chiefly snow in Finland and at isolated stations in France and Belgium—but rain in the British Isles and over the North Sea. Rain falling later in nearly all parts of western Europe, and heavy snow in Sweden.

Temperature fallen in many parts of southern and south-western Europe, risen elsewhere—most over the British Islands and North Sea. Morning readings varying from between zero Faht. and 20° over Russia, and from many degrees below the freezing point over nearly all the inland parts of Europe to between 50° and 53° over the northern and western parts of the British Islands, and at one or two stations on the southern side of the Mediterranean. Daily maxima a little above 50° in many parts of the United Kingdom, but frost continuing all day at some of the French and German stations.

Wind fresh from the Westward over the United Kingdom and north of France, fresh to a gale from the Southward on the eastern shores of the German Ocean, moderate to a gale from South-West and South over the Baltic, very light and variable over Russia, central and southern Europe, and over the Mediterranean. Subsequently increasing to a strong breeze from the Westward in the north of Scotland, and to a gale from the Southward in Sweden.

Barometer (though falling) still very high (30·4 ins. to 30·8 ins. and more) over Russia, and above 30·3 ins. in a well marked band, extending thence in a westerly direction across Poland, Austria, Germany, and France, to Spain and the Bay of Biscay. Lowest (about 29·0 ins.) in a large depression, centre of which lay near the Shetlands. Depression subsequently moving north-eastwards, but secondary disturbance approaching the north of Scotland.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟹ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

In the course of this week the frost which prevailed over England until the 2nd has given way entirely. The large Continental anticyclone, after increasing in intensity till the 4th (when its maximum pressures exceeded 31·0 ins., has moved southwards and south-eastwards, and low-pressure systems have appeared over the north-western parts of our area, bringing in mild damp South-Westerly to North-Westerly breezes over the British Islands, wet snow and rain. At the close of the week the milder conditions appeared to be firmly established, and the barometer had gone down to below 28·7 ins. off the west of Norway, though it still stood at 30·7 ins. and more over central Russia, and 30·1 ins. and more over the southern half of the Bay of Biscay.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ⚓	50	34	46·3	38·9	42·8	+ 2·2	19	9	5	1·86	+0·88	*	*
	Stornoway ⚓	51	35	46·4	38·6	42·7	+ 2·5	19	10	5	1·78	+0·58	8·2	18
	Wick ⚓	52	32	44·9	35·1	40·2	+ 0·5	8	28	5	0·50	−0·21	*	*
	Lairg ⚓	51	20	43·4	31·1	37·5	− 0·7	4	41	4	0·76	−0·19	*	*
	Glencarron ⚓	49	25	44·7	33·5	39·3	+ 1·6	8	33	4	3·11†	+0·83	2·0	4
	Fort Augustus ⚓	53	27	45·3	33·1	39·4	+ 0·7	9	35	4	0·94†	?	3·7	8
1. SCOTLAND, E.	Nairn ⚓	53	24	45·4	31·7	38·8	+ 0·1	10	40	3	0·31	−0·19	*	*
	Aberdeen ⚓	53	33	43·6	35·4	39·7	+ 1·5	4	26	4	0·53	−0·22	8·9	19
	Braemar ⚓	51	27	42·2	32·0	37·3	+ 2·8	1	37	2	0·29	−0·49	5·7‡	12‡
	Ochtertyre ⚓	54	25	43·4	30·6	37·3	− 0·1	4	43	4	0·34	−0·68	*	*
	Leith ⚓	53	27	45·4	33·9	39·9	+ 1·2	10	32	3	0·17	−0·30	*	*
	Marchmont ⚓	53	25	42·3	28·4	35·6	− 1·3	1	50	5	0·63	−0·17	5·8	12
2. ENGLAND, N.E.	Alnwick Castle	52	27	42·0	33·6	38·0	− 0·6	0	28	3	1·12	+0·37	*	*
	Durham	53	25	39·3	30·5	35·1	− 3·6	0	48	4	0·79	+0·07	2·5	5
	Shields	53	28	44·0	32·3	38·4	− 1·5	6	37	3	0·87	+0·25	*	*
	Scarborough ⚓	50	27	40·4	31·9	36·3	− 2·9	0	40	6	0·79	+0·09	0·7‡	1‡
	York	53	26	38·7	29·3	34·2	− 5·0	0	55	6	0·70	+0·16	0·0	0
	Spurn Head	48	31	42·9	34·1	38·7	− 0·7	3	30	7	0·53	?	*	*
3. ENGLAND, E.	Hillington ⚓	49	23	37·9	30·0	34·1	− 4·9	0	55	7	0·70	+0·10	7·4	14
	Yarmouth	47	30	40·3	32·4	36·5	− 3·0	0	39	5	0·44	−0·26	*	*
	Geldeston	49	29	39·6	32·5	36·2	− 3·7	0	41	5	0·50	−0·08	3·2	6
	Cambridge ⚓	50	22	39·0	27·6	33·5	− 5·7	0	60	5	0·44	−0·01	3·7	7
	Rothamsted	50	23	37·9	28·8	33·5	− 5·2	0	60	5	0·33	−0·26	*	*
	Ingatestone	49	27	38·8	30·1	34·6	− 5·0	0	52	4	0·50	0·00	*	*
4. MIDLAND	Bawtry (Hesley Hall)	52	23	40·1	29·0	34·8	− 5·1	0	50	5	0·66	+0·13	1·1‡	2‡
	Loughborough	52	23	40·4	27·1	34·0	− 4·5	0	56	5	0·49	−0·04	4·4‡	8‡
	Cheadle ⚓	49	27	37·3	30·1	33·8	− 4·6	0	57	4	0·57	−0·17	*	*
	Churchstoke ⚓	51	23	39·7	30·3	35·2	− 3·9	0	48	3	0·37	−0·34	4·5	9
	Hereford ⚓	52	24	40·5	27·6	34·3	− 4·9	0	54	4	0·50	−0·05	*	*
	Cirencester	49	22	37·6	27·4	32·7	− 6·4	0	65	3	0·53	−0·15	2·2	4
	Oxford	50	21	38·4	26·4	32·6	− 7·3	0	66	5	0·52	+0·02	2·0	4
5. ENGLAND, S.	London	51	23	40·6	30·1	35·6	− 4·4	0	45	5	0·50	+0·18	2·0‡	4‡
	Strathfield Turgiss ⚓	50	18	39·3	25·7	32·8	− 7·1	0	64	5	0·45	−0·07	*	*
	Dungeness	49	28	41·0	30·6	36·0	− 6·1	0	42	4	0·60	−0·15	*	*
	Hastings (St. Leonard's)	49	28	40·7	33·3	37·2	− 5·0	0	34	5	0·48	−0·21	12·9	23
	Southampton	51	25	39·6	31·2	35·6	− 4·5	0	45	5	0·50	−0·20	6·5	12
	Hurst Castle	49	30	42·3	32·6	37·6	− 4·9	1	34	3	0·40	−0·26	*	*
	Stowell ⚓	50	25	39·3	28·3	34·0	− 6·1	0	56	4	0·78	?	5·7‡	10‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	55	33	46·8	37·5	42·3	+ 1·8	21	13	5	2·85†	+0·65	*	*
	Glasgow	51	31	43·7	35·4	39·7	+ 0·2	5	25	3	0·69	−0·26	5·5	11
	Ardrossan	52	29	46·6	35·9	41·5	+ 2·2	13	26	4	0·94	+0·04	*	*
	Glenlee ⚓	52	21	43·0	29·9	36·7	− 1·7	3	45	4	0·73	−0·65	*	*
	Douglas (Isle of Man)	52	34	45·8	37·7	41·9	+ 0·5	11	19	4	0·78	−0·25	11·6	22
7. ENGLAND, N.W.	Newton Reigny (Penrith)	52	24	39·9	29·7	35·0	− 3·5	0	49	3	0·39	−0·40	5·3	11
	Barrow-in-Furness	50	31	42·0	32·1	37·2	− 4·2	0	34	3	1·09	+0·28	*	*
	Stonyhurst	49	27	38·8	31·6	35·3	− 3·9	0	47	4	1·59	+0·49	0·8	2
	Blackpool ⚓	50	27	41·8	30·9	36·6	− 3·1	0	38	4	0·83	+0·06	4·6	9
	Manchester	51	27	39·6	32·6	37·2	− 2·8	0	34	3	1·07	+0·22	*	*
	Liverpool Obsr (Bidston)	51	28	41·9	33·0	37·6	− 1·9	6	23	3	0·63	+0·02	*	*
	Llandudno ⚓	51	29	44·1	36·3	40·4	− 1·9	6	23	3	0·55	−0·21	?	?
	Holyhead	53	31	45·6	36·1	41·0	− 3·2	10	24	3	0·99	+0·12	*	*
8. ENGLAND, S.W.	Llandovery	52	22	41·6	27·6	34·9	− 5·8	0	50	3	0·79	−0·43	*	*
	Pembroke	51	32	45·3	37·9	41·8	− 1·9	9	18	3	0·59	−0·32	9·4	17
	Arlington (N. Devon)	50	29	42·1	30·7	36·6	− 4·6	0	41	3	0·69	−0·72	*	*
	Cullompton ⚓	51	25	41·8	28·5	35·4	− 6·3	0	46	3	0·44	−0·36	8·1	15
	Falmouth	52	33	45·7	38·3	42·2	− 2·5	17	10	4	0·56	−0·65	12·1	22
	Plymouth	52	31	45·7	33·2	39·7	− 3·5	10	35	3	0·68	−0·14	17·6	31
	Prawle Point	50	32	45·9	36·0	41·2	− 2·0	11	25	4	0·65	?	*	*
9. IRELAND, N.	Malin Head	51	33	45·0	37·7	41·5	+ 0·3	8	18	4	0·83	?	*	*
	Londonderry	52	30	45·8	35·6	40·9	0·0	11	26	4	1·15	+0·23	*	*
	Mullaghmore	51	36	47·1	40·1	43·7	+ 1·7	20	5	4	1·01	+0·01	*	*
	Belmullet	53	36	49·3	41·7	45·7	+ 1·5	27	1	5	1·53	?	*	*
	Markree Castle	53	30	45·8	34·9	40·6	− 0·6	11	29	4	1·24	+0·45	10·6	20
	Brookeborough	51	27	43·8	32·7	38·5	− 1·7	5	36	4	1·14	?	*	*
	Armagh	53	32	45·6	34·2	40·1	− 0·7	10	31	4	0·70	+0·06	7·7	15
	Donaghadee	53	31	46·9	36·7	42·0	+ 0·4	14	15	4	0·88	+0·24	*	*
	Edgeworthstown	52	25	43·9	31·7	38·0	− 2·1	5	39	4	0·71	−0·05	*	*
10. IRELAND, S.	Dublin	54	31	46·4	37·1	41·9	+ 0·2	12	21	4	0·49	−0·05	13·0	25
	Parsonstown	53	26	45·9	32·9	39·7	− 0·8	11	37	4	0·87	+0·22	13·0	25
	Kilkenny	53	28	44·7	32·3	38·8	− 1·6	8	38	4	0·81	+0·13	*	*
	Waterford	55	31	47·0	37·9	42·6	0·0	21	11	4	0·82	−0·10	*	*
	Roche's Point	55	34	48·1	39·4	43·9	+ 0·5	24	7	4	1·07	0·00	*	*
	Valencia	54	39	50·0	44·0	47·1	+ 1·3	36	0	5	1·23	−0·07	5·2	10
	Killarney	55	31	49·9	38·9	44·6	+ 0·9	31	9	4	0·75	?	*	*
	Foynes	52	31	48·4	37·4	43·1	+ 0·9	27	13	4	0·85	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	52	39	49·4	42·0	45·9	− 1·7	27	0	3	0·55	−0·37	*	*
	Jersey	52	30	42·6	33·9	38·4	− 5·8	2	30	5	0·89	−0·06	7·6	13

Stations marked ⚓ are in connection with the Royal Meteorological Society, and those marked ⚓ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VI. No. 50.] *Third Series.* WEEK ENDING MONDAY, 16TH DECEMBER, 1889. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 300.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	55	16	43·8	32·9	38·6	1 below.	5	− 1	35	+ 3	2094	+218	671	− 46
	1. SCOTLAND, EAST	56	19	43·7	30·3	37·2	0 (average).	5	− 2	44	+ 5	2401	+ 16	750	− 40
	2. ENGLAND, N.E.	52	25	42·1	32·0	37·3	1 below.	0	− 8	37	+ 2	2353	− 15	641	− 42
	3. ENGLAND, EAST	50	21	42·3	31·6	37·2	2 below.	1	− 9	38	+ 2	2917	− 37	804	+ 92
	4. MIDLAND COUNTIES	54	19	44·2	30·0	37·4	2 below.	6	− 5	46	+ 8	2882	− 34	771	+ 34
	5. ENGLAND, SOUTH	52	21	45·3	32·3	39·1	2 below.	9	− 6	38	+ 9	3246	+ 20	584	+ 52
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	53	22	45·3	34·7	40·2	0 (average).	9	− 1	29	0	2535	+ 56	483	− 96
	7. ENGLAND, N.W.	53	24	44·3	34·2	39·5	2 below.	6	− 5	31	+ 4	2731	+ 30	483	− 44
	8. ENGLAND, S.W.	53	20	47·8	35·4	41·9	1 above.	16	− 3	29	+13	3044	−105	421	+109
	9. IRELAND, NORTH	53	24	45·9	34·5	40·4	1 below.	11	− 2	30	+ 1	2702	+ 69	398	−116
	10. IRELAND, SOUTH	54	22	47·9	34·2	41·3	1 below.	17	− 3	33	+ 9	3039	+ 11	314	− 54
	— CHANNEL ISLANDS	53	32	50·7	41·3	46·2	1 above.	32	+ 3	2	− 4	3303	+115	98	− 18

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 300.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.				Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	6	9	4 less.	234	+11	40·1	−1·9	4	10	950	−230	22	− 6
	1. SCOTLAND, EAST	3	2	5 less.	189	+ 3	25·1	−6·6	13	28	1217	−164	28	− 4
	2. ENGLAND, N.E.	3	1	5 less.	176	− 6	23·7	−3·6	19	38	1131	−124	26	− 3
	3. ENGLAND, EAST	4	2	4 less.	181	− 7	25·3	−0·3	8	16	1312	−217	31	− 5
	4. MIDLAND COUNTIES	3	1	5 less.	163	−12	25·9	−3·0	13	23	1208	−162	28	− 4
	5. ENGLAND, SOUTH	5	3	4 less.	167	− 6	24·9	−2·5	11	21	1285	−182	30	− 4
Principal Grazing, &c. Districts.	6. SCOTLAND, WEST	6	13	4 less.	199	0	40·1	−7·4	11	22	1278	− 42	30	− 1
	7. ENGLAND, N.W.	6	5	3 less.	188	+ 1	30·6	−4·3	13	26	1236	− 78	29	− 2
	8. ENGLAND, S.W.	6	7	4 less.	188	−10	34·1	−8·7	15	27	1460	−125	34	− 3
	9. IRELAND, NORTH	6	6	2 less.	222	0	33·7	+1·3	13	26	1107	−145	26	− 3
	10. IRELAND, SOUTH	5	7	1 less.	199	− 7	35·2	−3·2	16	30	1363	− 69	32	− 1
	— CHANNEL ISLANDS	7	8	1 less.	201	−15	29·2	−3·9	15	26	1699	−171	40	− 4

General Remarks.

Weather has been generally fairer than of late over the greater part of England and Scotland, but over Ireland and the western parts of Great Britain very unsettled conditions have prevailed and frequent rain has fallen. Much mist or fog has been experienced at times in all parts of the Kingdom.

Temperature has been slightly above the mean in the "Channel Islands" and "England, S.W.", and about equal to it in the east and west of Scotland, but in the other districts it has been 1° or 2° below. The highest of the maxima were recorded on the 16th and ranged from 50° in the "Midland Counties" to 55° in "Scotland, N." and 56° in "Scotland, E." The lowest of the minima, which were registered either on the 12th or 13th, ranged from 16° to 22° in Scotland, from 22° to 24° in Ireland, and from 19° to 25° over England. In the "Channel Islands" the lowest value was 32°.

Rainfall has been less than the mean in all districts. Over all the more eastern parts of the Kingdom the fall has been very slight.

Bright sunshine has been more prevalent than it was last week in nearly all places, the percentage of the possible amount of duration having ranged from 10 in "Scotland, N." and 16 in "England, E." to 30 in "Ireland, S." and to 38 in "England, N.E."

Barometer and Wind.—During the whole of this period barometric pressure was highest over the southern and south-western parts of the Kingdom, while depressions travelled in a north-easterly direction outside our north-western and northern coasts. The winds consequently varied from between South and West very generally, and were, as a rule, moderate to fresh in force; at the commencement of the period, however, a fresh Westerly gale was experienced at Pembroke, and during the night of the 12th—13th a fresh to strong gale from the Southward occurred over the western and northern parts of our Islands.

NOTE.—Owing to the Christmas holidays there will be a delay of several days in the issue of the next week's report.

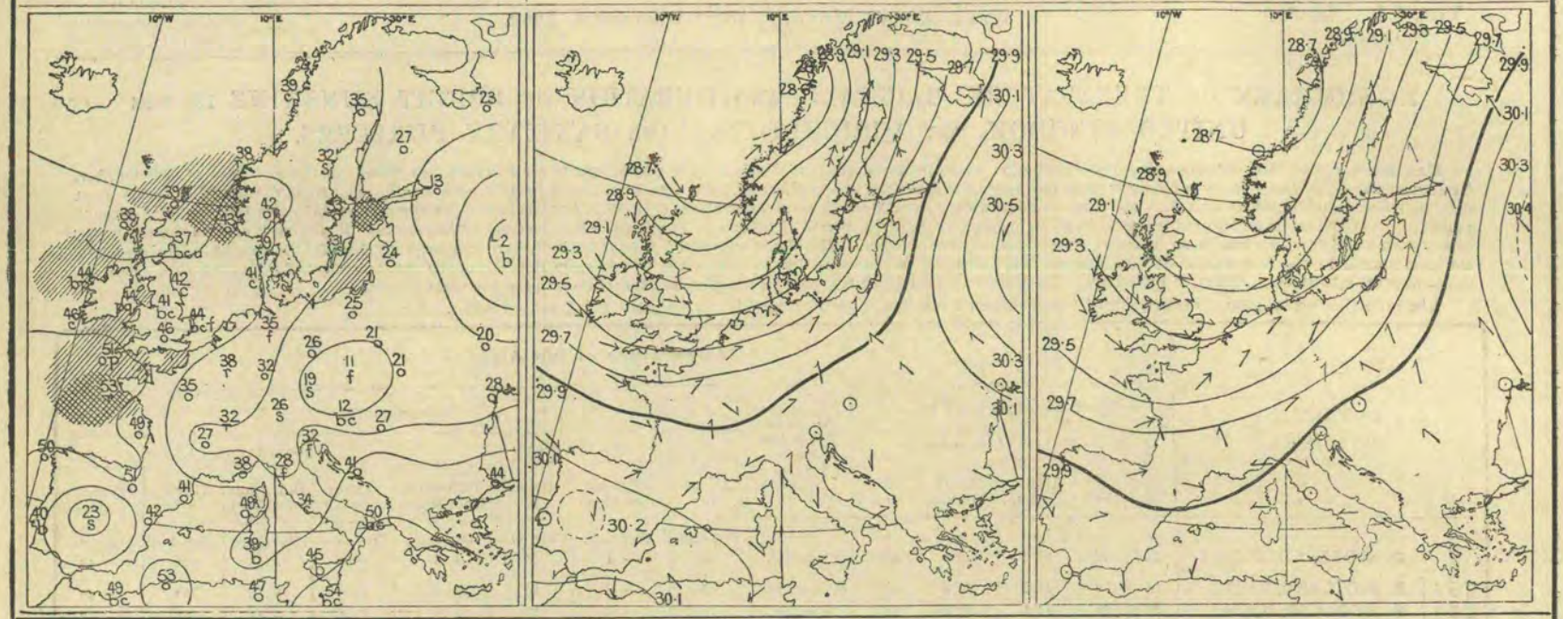
61026. 350.—12/89. Wt. 36. E. & S.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 10th December.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine over Spain, Italy, and Algeria, unsettled elsewhere; showery in many parts of the British Islands; rainy at several French and Belgian stations. Rain or sleet later in almost all parts of Europe, heavy over France, with thunderstorms in some localities.

Temperature falling decidedly over the western, rising over the central, countries; continuing very low, nevertheless, over Russia and south-eastern Europe, but above the average over the British Isles and their neighbourhood. Daily maxima 38° to 45° over the greater part of the British Isles, but exceeding 50° in many parts of France, and exceeding 60° at Palermo.

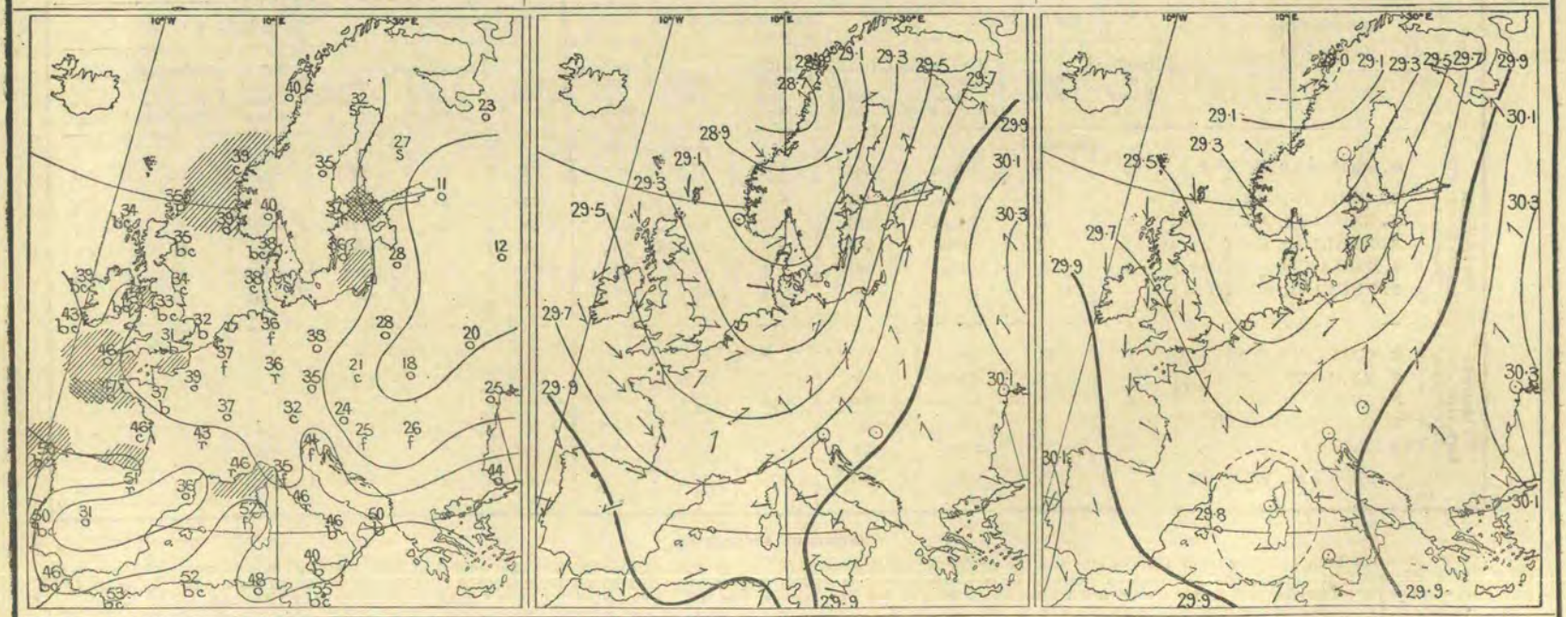
Wind moderate to fresh from North and North-West in the extreme north and west of the British Isles, from West in France; moderate from South-West over the eastern parts of the North Sea, and blowing a gale from South over Finland and the Gulf of Bothnia. Very variable over southern Europe and the Mediterranean, and light at nearly all stations. Gale in Finland and the Baltic subsiding later.

Barometer highest, 30·1 ins. to 30·5 ins. and more, over Russia, and 30·1 ins. to nearly 30·3 ins. over the Spanish Peninsula. Lowest, 28·6 ins. and less, off the north-west of Norway, 28·8 ins. and less off the north-east of Scotland, and 30·0 ins. and less over the Gulf of Genoa. Barometer rising in Scotland later.

Wednesday, 11th December.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine over the United Kingdom and France, cloudy or overcast elsewhere, with snow in Lapland and at some of the Baltic stations; fog in the Netherlands. Very heavy rain in the south-west of France later, and cold showers at many of the European stations; very slight rainfall over the northern and western parts of the United Kingdom.

Temperature giving way decidedly over the western and north-western countries, rising over the southern, central, and eastern regions, but still low over Russia, Austria, and South Germany. Daily maxima below 40° in Scotland and Germany, below 50° in most other parts of north-western Europe, but exceeding 60° at Palermo and Malta, as well as in some parts of Algeria.

Wind Southerly over the eastern half of Europe (a gale over Finland), North-Westerly (North to West) in the west, but light in force; Northerly, light, over Spain, and very variable over the Mediterranean. Gale subsiding over Finland later, very little change elsewhere.

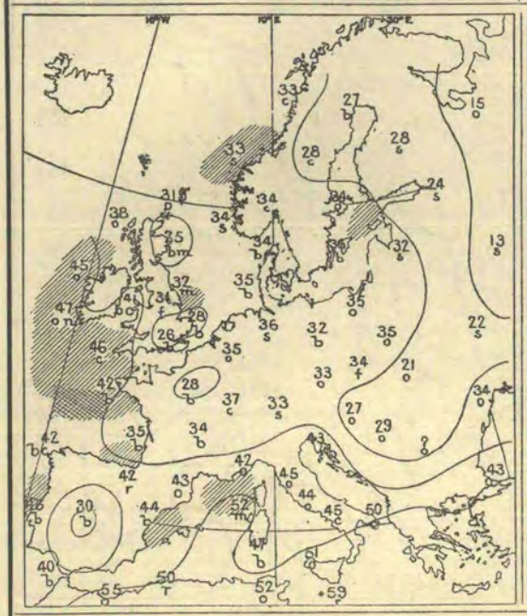
Barometer rising in the west and north of the British Islands, falling elsewhere; still highest (29·9 ins. to 30·4 ins.), over Poland and Russia, 29·9 ins. and more, over the Spanish Peninsula; lowest, 28·7 ins. and less, in a depression lying over the north-west of Norway, and ranging from 29·0 ins. to 29·3 ins. on the eastern shores of the North Sea. Low pressure systems moving north-eastwards later.

II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 12th December.

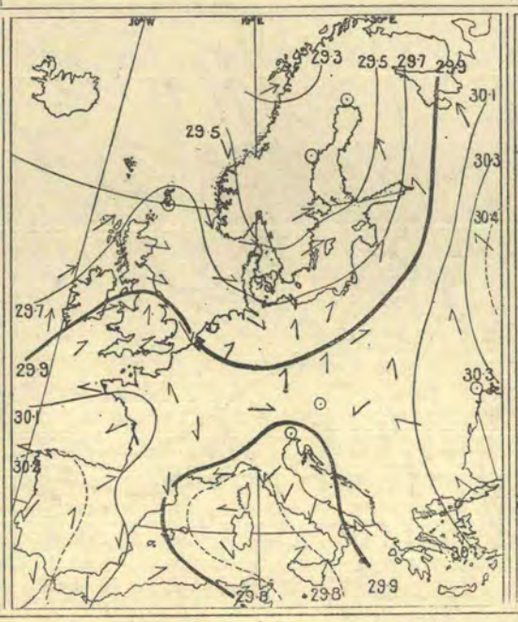
Temperature and Weather.

8 a.m.

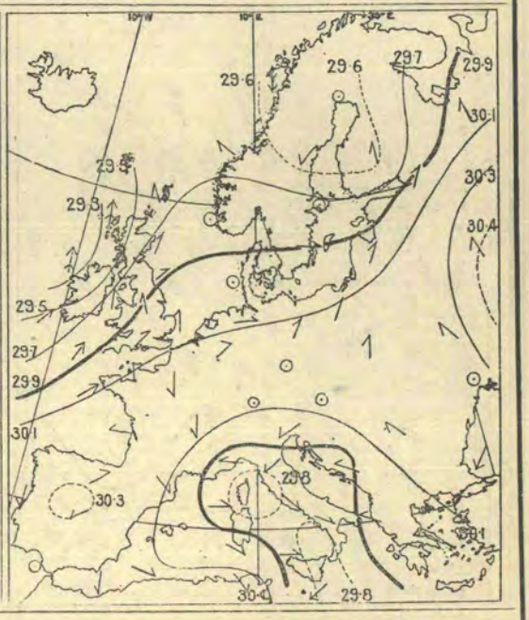


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine over western Europe as a whole (but rainy at Biarritz), cloudy or overcast elsewhere, with snow in many places. Rain setting in over the United Kingdom and west of France later, and cold showers occurring at some Continental stations.

Temperature rising over eastern Europe, and (after a sharp night) over the United Kingdom; recovering in the western parts of the British Islands; said recovery spreading quickly to the eastward later, but not reaching the eastern shores of the North Sea. Thermometer again exceeding 60° over Algeria and southern Italy during day; not reaching 50° in our Islands except at Valencia and Jersey, and continuing below 40° over France and central Europe.

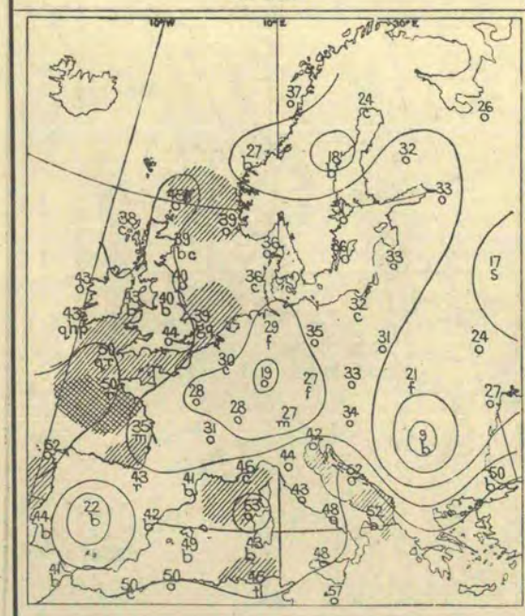
Wind mainly Northerly in Norway, Westerly in Denmark, South-Westerly to Southerly in North Germany and over Russia; a gale again reported over Finland. Cyclonic circulation of moderate wind prevailing over the Mediterranean, and South-Westerly and Southerly wind spreading over the British Islan is from the westward. Southerly winds increasing to a gale in far west later.

Barometer highest (30·0 ins. to 30·4 ins., and rising) over Russia, 30·1 ins. to 30·2 ins., and more, over Spain and the south-west of France; lowest 29·3 ins. and less over Lapland and below 29·5 ins. in a hollow, spreading thence in a southerly direction over Sweden. Latter disturbances disappearing later; new depression approaching our north-western coasts from the south-westward.

Friday, 13th December.

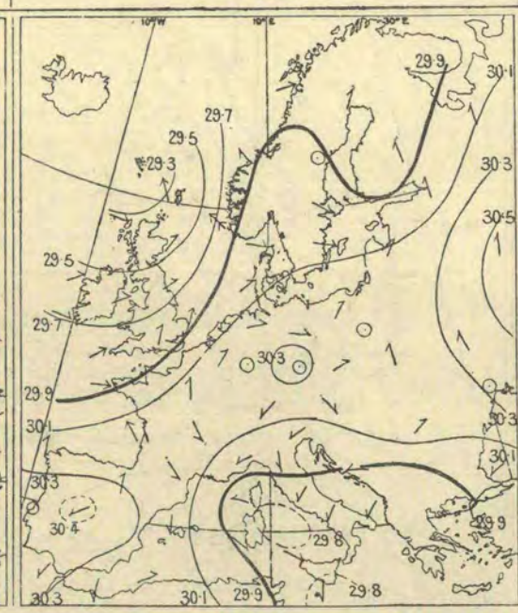
Temperature and Weather.

8 a.m.

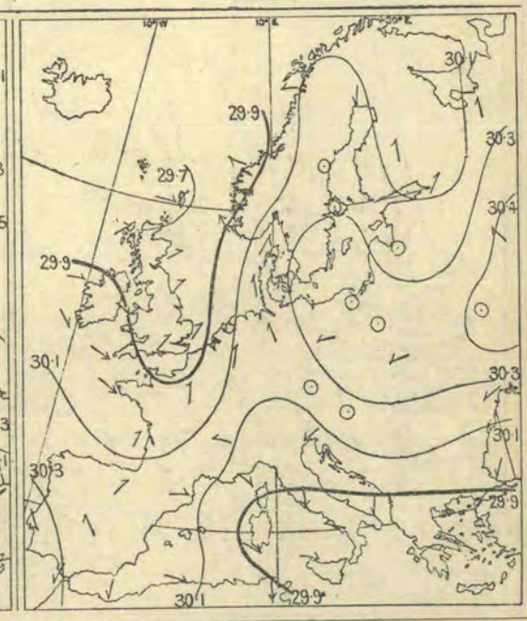


Barometer and Wind.

8 a.m.



6 p.m.



Weather very changeable over the British Isles and France—rain falling in several places while clear sky prevailed in others; overcast on the Continent, with snow in some localities. A good deal of rain later over France and the southern parts of the British Islands, and showers at several western and northern stations.

Temperature increased over the north-western countries and to a less extent over the north of Russia, fallen over Germany, Austria, and Poland, and changed irregularly on the shores of the Mediterranean. Frost prevalent very generally over the inland parts of the Continent, but temperature in our Islands becoming high for the time of year; daily maxima 49° at Loughborough, 50° at Scilly, and 53° at Jersey.

Wind strong Westerly to Southerly over western and northern Europe, very light and variable over the eastern and central countries, with a complete cyclonic circulation of moderate winds over the Mediterranean. Wind in our Islands falling lighter later, and shifting to North-West on our western coasts and in Brittany.

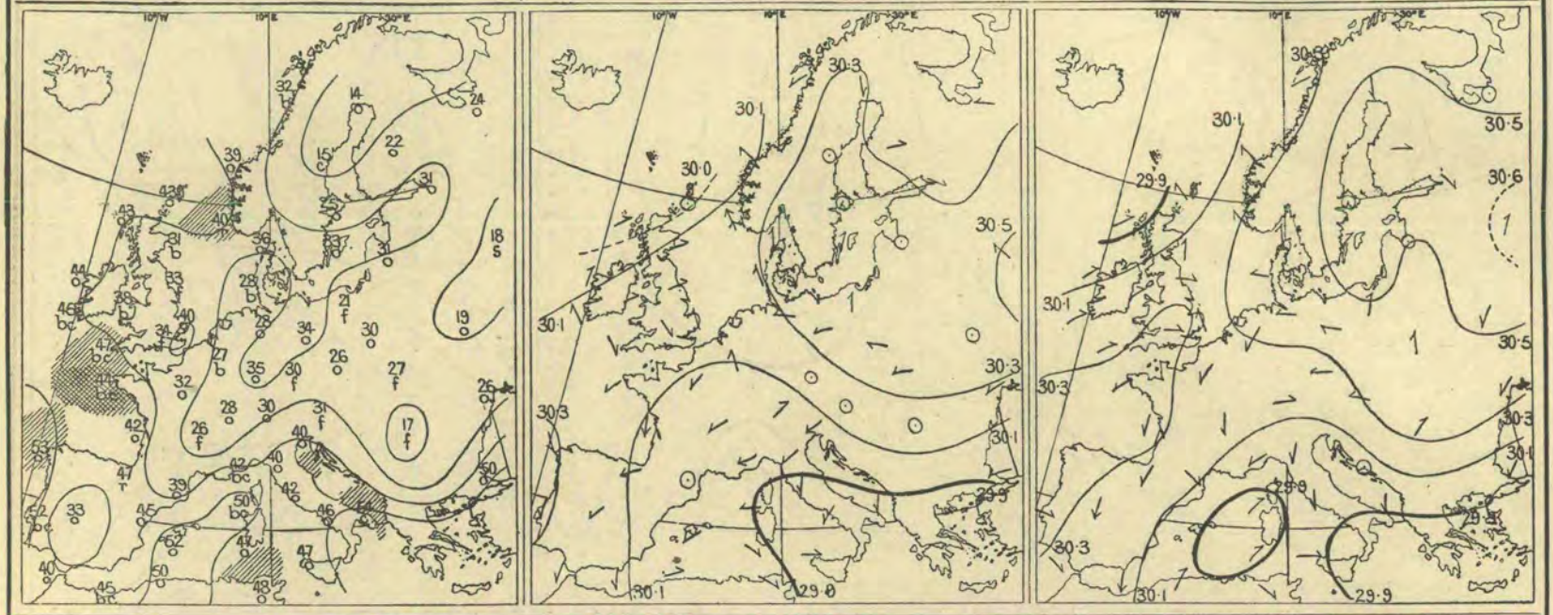
Barometer highest in anticyclonic systems lying over Russia and Spain, the two systems being united by a broad band of high pressure stretching from France across central Europe to Poland. Depressions lying off the north of Scotland and also over the Mediterranean, and a "hollow" appearing over the British Islands later.

II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 14th December.

Temperature and Weather. **Barometer and Wind.**

8 a.m. **8 a.m.** **6 p.m.**



Weather fine over the greater part of the United Kingdom, but foggy over England and the south of Scotland. Cloudy or overcast on the Continent, with fog at several of the Austrian stations, and snow at Moscow and Nicolaieff. Rain falling later in Ireland and the west of Scotland, but sky clearing in Austria.

Temperature highest, 50° and upwards, in Portugal and at some of the Mediterranean stations; lowest, 20° or less, over central Russia. Frost prevailing over the whole of northern, eastern, and central Europe, as well as over central England. Daily maxima below 35° in some parts of England, France, and Germany, but thermometer rising above 50° on our extreme south-west coasts, and above 55° over Algeria and the south of Italy. Highest reading of all 61° at Palermo and Oran.

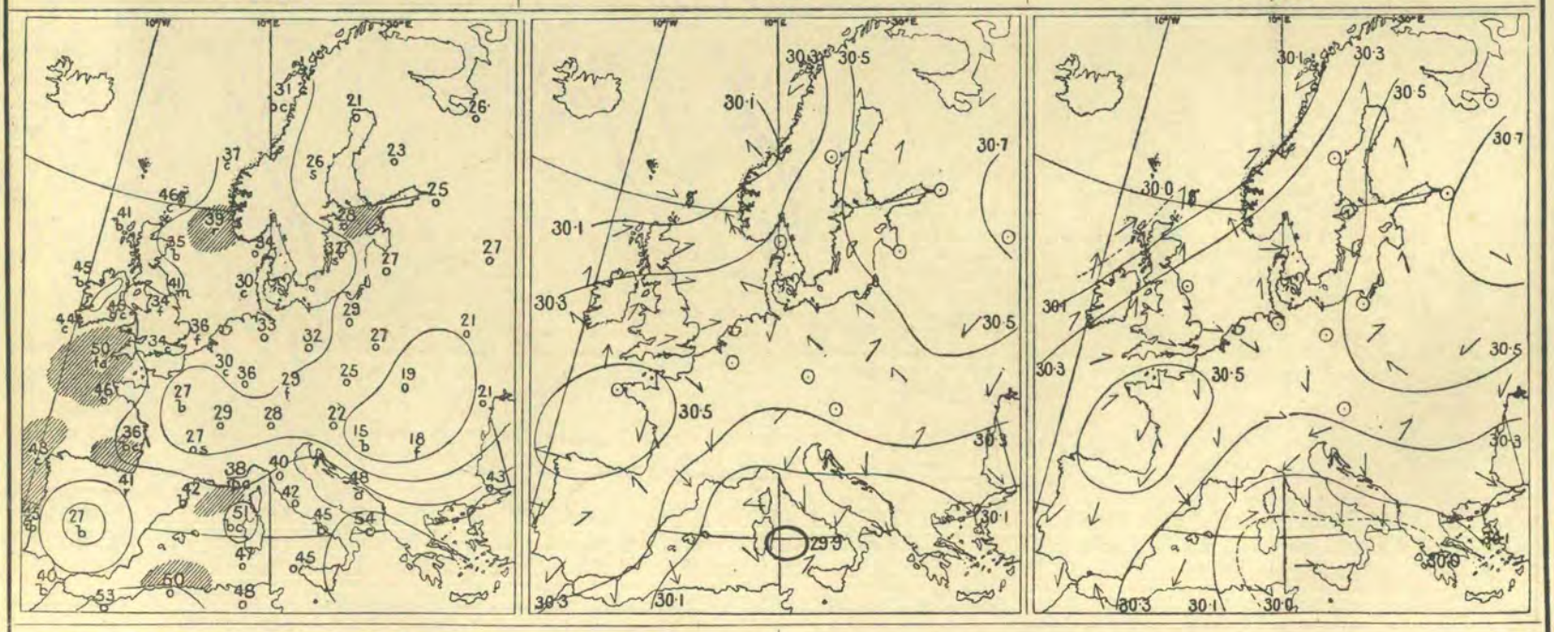
Wind light from the Southward or South-Westward in the west and north of the United Kingdom, and South-Easterly on the eastern shores of the North Sea, with a gale at Skudesnaes. Light or moderate from the Northward or North-Eastward over England, France, Spain, and Italy; light from the Eastward over central Europe; Westerly in Algeria and also in the north of Russia. Subsequently increasing to a moderate gale from the Southward or South-Westward in the extreme north-west of our Islands.

Barometer highest, 30·5 ins. and upwards, in an anticyclone lying over central Russia; high, 30·3 ins. and upwards, in another system lying off the west of Portugal. Lowest, 29·9 ins. and less, in a large area lying over the south of Italy and the eastern parts of the Mediterranean; somewhat low, 30·0 ins. and less, in another large area lying to the northward and north-westward of the British Islands. Depression subsequently skirting our extreme north-west coasts in a north-easterly direction, and barometer falling rather quickly in the Hebrides.

Sunday, 15th December.

Temperature and Weather. **Barometer and Wind.**

8 a.m. **8 a.m.** **6 p.m.**



Weather fine in all the more northern parts of our Islands, as well as over the greater part of France and Spain. Cloudy or overcast elsewhere, with fog or mist at many of the English stations, and with snow at Hernösand, Wisby, and Lyons. Slight rain falling later in the west of our Islands and larger amounts in Algeria and Sicily, with thunder at Sfax.

Temperature highest, 45° and upwards, in the extreme south-west of our Islands and over the central and southern parts of the Mediterranean; lowest, 20° and less, over Austria and the south of Russia. Frost prevailing over the whole of central, northern, and eastern Europe. Considerable rise of temperature taking place over England during the ensuing night.

Wind light from the South-Westward and Westward in all the more northern parts of our Islands, but variable in the south and Northerly or North-Easterly over France, Spain, and Italy. Southerly or South-Easterly over Scandinavia and the Baltic, with a gale at Skudesnaes; light and variable in Russia. Subsequently increasing to a strong breeze or a moderate gale from the Southward or South-Westward in the extreme north-west of our Islands.

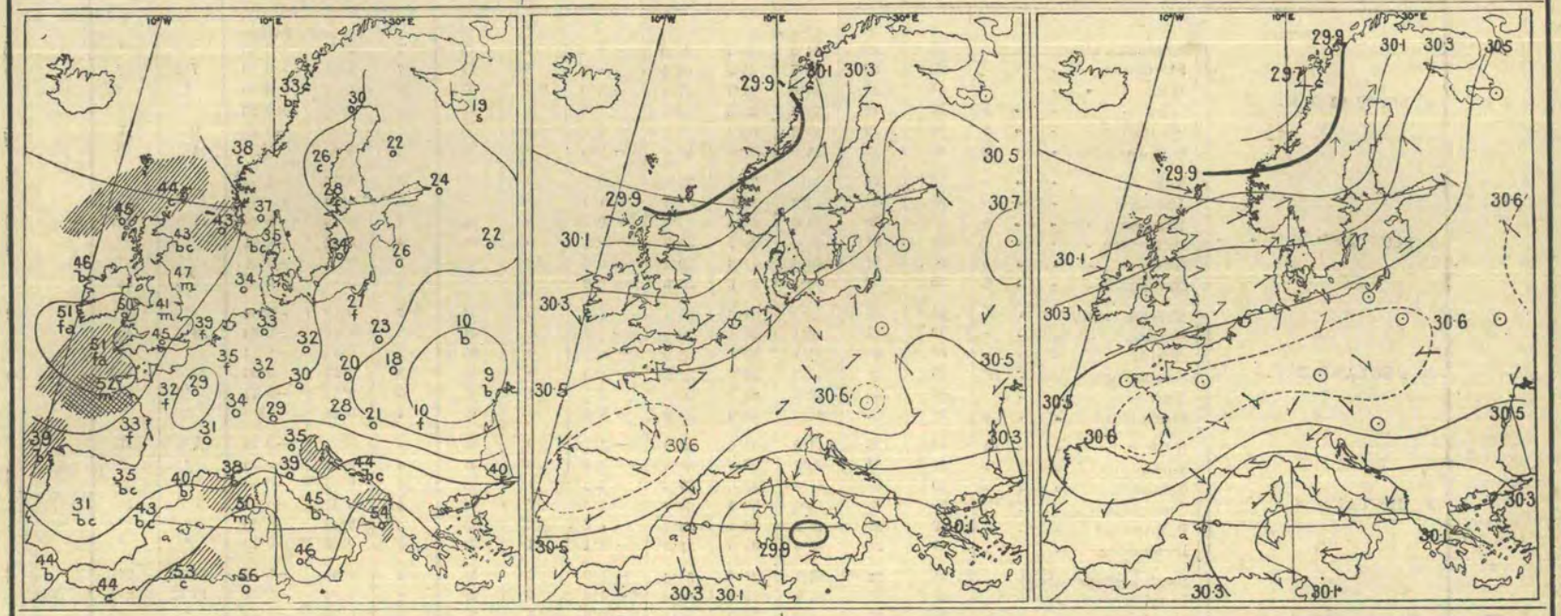
Barometer highest, 30·7 ins. and upwards, in an anticyclone lying over central Russia; high, 30·5 ins. and upwards, in another system lying over the Bay of Biscay and the west of France. Lowest, 30·0 ins. and less, in a large area covering the greater part of the Mediterranean; somewhat low, 30·1 ins. and less, in another large area lying to the northward of our Islands. Depression moving later along our extreme western coasts, and barometer falling quickly in the Hebrides and the north of Ireland.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 16th December.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather fine over the northern parts of the United Kingdom, as well as in Spain, central Italy, and the southern parts of France and Russia. Cloudy or overcast elsewhere, with fog and drizzling rain over the Netherlands and the southern parts of the United Kingdom, as well as at some of the French and German stations. Rain falling later in many parts of northern and north-western Europe, as well as in Algeria and Sicily.

Temperature highest, 50° or a little above, in the south of Ireland and at some of the Mediterranean stations; lowest, 10° or less, over the south of Russia and the south-east of Austria. Frost prevailing over the greater part of northern, eastern, and central Europe. Daily maxima above 50° in many parts of the United Kingdom, but below 40° at several of the French and German stations. Thermometer exceeding 55° in many parts of Spain, Algeria, and the south of Italy.

Wind light or moderate from the Westward or South-Westward over our Islands, the Netherlands, and the north of France; strong from the South-Eastward or Eastward in the west of Norway; light from the South-Eastward or Southward over Finland and the Baltic. Chiefly North-Easterly over southern Europe; Northerly or North-Westerly in Algeria; variable over central Europe. No important change occurring during day.

Barometer highest, 30·7 ins. and upwards, in an anticyclone lying over cental Russia; high, 30·6 ins. and upwards, in another lying over the Bay of Biscay, the west of France, and the north of Spain. Lowest, 29·9 ins. and less, in a large area lying to the northward of our Islands and the westward of Norway, and also apparently in a shallow depression lying to the northward of Sicily. Low pressure system in north subsequently moving gradually north-eastwards.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the whole of this week barometric pressure has remained highest in a large anticyclone lying over central Russia, and the winds over northern and eastern Europe have therefore been principally Southerly. Towards the latter part of the time, however, a second high-pressure area which had previously existed to the westwards of the Iberian Peninsula extended north-eastwards, and at the close of the week this was apparently becoming merged in the Russian anticyclone. Numerous large depressions have advanced over the northern parts of Scandinavia from the south-eastwards, and on the 10th and 11th gales from the southward with heavy snowstorms were experienced over Sweden and Finland. Over Western Europe the wind, which has varied between South-West and North-West, has been usually moderate in force, but on the 12th a fresh to strong gale from the Southward or South-Westward was reported in the western and northern parts of the United Kingdom. Frosty weather has prevailed continuously over northern, eastern, and central Europe, and has on one or two occasions extended westwards over Great Britain.

III.—DATA from which the SUMMARY on page 295 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches	Inches.		
0. SCOTLAND, N.	Sumburgh Head ‡	51	26	44·6	35·7	40·3	− 0·1	7	25	7	0·79	−0·19	*	*
	Stornoway	53	26	44·7	35·1	40·1	+ 0·2	8	27	7	0·67	−0·60	7·5	17
	Wick	55	25	43·4	31·7	37·8	− 1·5	4	39	6	0·72	0·00	*	*
	Lairg ‡	50	16	42·5	29·3	36·2	− 1·8	1	47	4	0·33	−0·62	*	*
	Glencarron	49	20	43·9	33·4	38·9	+ 1·0	5	33	7	2·00†	−0·27	0·8	2
	Fort Augustus ‡	49	22	43·9	32·0	38·2	− 0·8	5	38	5	0·66†	?	4·8	10
1. SCOTLAND, E.	Nairn	55	24	45·0	31·1	38·3	+ 0·1	8	42	2	0·15	−0·34	*	*
	Aberdeen	52	24	42·9	30·9	37·1	− 1·1	3	41	5	0·58	−0·17	11·6	25
	Braemar ‡	46	19	40·5	28·4	34·7	+ 0·1	0	51	4	0·26	−0·49	11·8‡	26‡
	Ochtertyre ‡	56	21	45·0	29·7	37·7	+ 0·1	8	48	4	0·22	−0·81	*	*
	Leith	55	27	46·4	31·3	39·2	+ 0·9	12	43	1	0·04	−0·41	*	*
	Marchmont ‡	49	26	42·1	30·6	36·6	+ 0·2	0	42	2	0·14	−0·65	16·3	34
2. ENGLAND, N.E.	Alnwick Castle	51	26	42·1	31·6	37·1	− 1·1	0	38	2	0·13	−0·62	*	*
	Durham	49	27	42·4	30·1	36·5	− 1·8	1	44	3	0·10	−0·62	23·7	48
	Shields	52	30	44·1	32·6	38·6	− 0·8	6	36	2	0·07	−0·54	*	*
	Scarborough ‡‡	45	29	40·2	32·0	36·3	− 2·3	0	40	3	0·13	−0·56	20·5‡	40‡
	York	48	25	42·3	29·9	36·4	− 2·5	1	45	3	0·14	−0·41	13·3	26
	Spurn Head	48	32	41·7	35·9	38·9	+ 0·2	0	22	4	0·40	?	*	*
3. ENGLAND, E.	Hillington ‡‡	49	22	41·9	31·4	36·9	− 1·7	0	36	4	0·13	−0·46	7·8	15
	Yarmouth	49	27	40·2	32·7	36·6	− 2·6	0	38	4	0·12	−0·56	*	*
	Geldeston	49	27	42·3	33·0	37·8	− 1·5	1	33	4	0·09	−0·46	9·6	18
	Cambridge	50	23	44·4	30·4	37·7	− 1·3	7	44	4	0·07	−0·38	7·9	15
	Rothamsted	49	21	42·6	30·3	36·7	− 1·6	2	43	5	0·19	−0·39	*	*
	Ingatestone	49	24	42·5	31·6	37·3	− 2·1	1	39	5	0·27	−0·19	*	*
4. MIDLAND	Bawtry (Hesley Hall)	51	22	42·7	28·0	35·6	− 3·9	2	51	2	0·03	−0·50	14·8‡	28‡
	Loughborough	51	23	43·9	29·1	36·8	− 1·4	5	49	2	0·04	−0·49	10·7‡	21‡
	Cheadle ‡‡	50	27	43·2	32·0	37·8	− 0·4	3	37	5	0·18	−0·56	*	*
	Churchstoke ‡‡	52	25	45·7	31·1	38·7	0·0	10	43	4	0·27	−0·44	18·8	36
	Hereford ‡‡	54	23	46·3	29·7	38·3	− 0·9	12	48	3	0·14	−0·40	*	*
	Cirencester	49	19	43·6	28·4	36·3	− 2·9	4	51	3	0·22	−0·45	11·4	22
	Oxford	50	26	44·0	31·4	38·0	− 1·2	6	41	2	0·12	−0·37	11·5	22
5. ENGLAND, S.	London	51	25	45·9	32·0	39·2	− 0·3	11	39	5	0·24	−0·24	3·8‡	7‡
	Strathfield Turgiss ‡‡	50	21	44·5	28·9	37·0	− 2·3	7	50	3	0·09	−0·41	*	*
	Dungeness	49	24	45·4	33·0	39·5	− 2·7	10	36	5	0·37	−0·35	*	*
	Hastings (St. Leonard's)	49	28	44·7	34·8	40·0	— 1·9	8	29	5	0·38	−0·30	16·5	31
	Southampton	51	25	45·4	33·0	39·5	— 0·2	10	36	5	0·19	−0·51	11·5	21
	Hurst Castle	50	28	46·3	33·9	40·4	− 1·8.	12	33	5	0·41	−0·24	*	*
	Stowell ‡‡	52	25	45·0	30·9	38·2	− 1·8	8	43	4	0·30	?	12·2‡	23‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	53	31	46·1	36·9	41·7	+ 1·2	11	22	7	2·73†	+0·55	*	*
	Glasgow	48	30	43·4	36·1	39·9	+ 0·2	4	23	6	0·36	−0·60	6·0	13
	Ardrossan ‡	50	31	46·7	35·9	41·5	+ 1·9	13	26	5	0·91	0·00	*	*
	Glenlee ‡	49	22	43·5	30·9	37·5	− 1·1	4	42	6	1·72	+0·34	*	*
	Douglas (Isle of Man)	51	29	46·7	33·8	40·5	− 1·0	13	34	6	0·54	−0·48	15·8	31
7. ENGLAND, N.W.	Newton Reigny (Penrith)	48	24	41·7	29·8	36·0	− 3·0	0	42	5	0·65	−0·14	11·3	23
	Barrow-in-Furness	48	30	43·9	33·6	39·0	− 2·4	5	32	6	0·44	−0·34	*	*
	Stonyhurst	48	26	41·6	32·0	37·0	− 2·1	0	35	6	0·57	−0·53	13·7	27
	Blackpool ‡‡	49	26	44·2	32·7	38·7	− 2·7	6	36	7	0·52	−0·24	10·3	20
	Manchester	48	27	41·5	32·1	37·0	− 2·7	0	35	6	0·36	−0·49	*	*
	Liverpool Obsy (Bidston)	53	30	46·0	35·3	40·9	− 0·1	11	28	5	0·48	−0·13	*	*
	Llandudno ‡‡	51	33	47·7	37·9	43·0	+ 0·7	24	11	3	0·65	−0·10	16·6	32
	Holyhead	51	37	47·9	40·0	44·1	− 0·1	23	6	6	0·42	−0·45	*	*
8. ENGLAND, S.W.	Llandovery	51	20	44·7	28·7	37·0	− 3·7	8	51	5	0·85	−0·38	*	*
	Pembroke	52	38	48·9	42·0	45·6	+ 2·2	25	0	7	0·49	−0·42	12·1	23
	Arlington (N. Devon)	50	28	46·6	33·6	40·4	− 0·6	13	35	5	0·97	−0·44	*	*
	Cullompton ‡‡	53	22	47·7	30·2	39·3	− 2·0	16	48	6	0·39	−0·41	16·2	30
	Falmouth	52	36	48·9	39·9	44·6	+ 0·1	27	6	7	0·54	−0·66	15·7	29
	Plymouth	52	30	48·2	35·7	42·2	− 0·9	28	18	6	0·69	−0·13	13·9	25
	Prawle Point	52	32	49·4	37·9	43·9	+ 0·7	31	11	6	0·63	?	*	*
9. IRELAND, N.	Malin Head	52	32	45·9	37·0	41·6	+ 0·4	11	21	7	0·88	?	*	*
	Londonderry	49	32	44·8	35·3	40·2	− 0·5	8	26	6	0·58	−0·32	*	*
	Mullaghmore	53	36	48·0	39·3	43·8	+ 1·9	24	8	7	0·70	−0·27	*	*
	Belmullet	52	36	48·3	40·4	44·5	+ 0·5	24	4	7	0·87	?	*	*
	Markree Castle	50	26	45·8	31·2	38·8	− 2·4	11	43	6	0·71	−0·07	10·4	20
	Brookeborough	48	24	44·1	29·0	36·9	− 3·2	6	49	5	0·62	?	*	*
	Armagh	50	30	45·0	34·0	39·7	− 0·7	8	32	3	0·25	−0·39	15·6	31
	Donaghadee	53	30	45·1	33·7	39·6	− 1·9	9	33	5	0·33	−0·31	*	*
	Edgeworthstown	49	26	45·7	30·4	38·4	− 1·6	10	46	5	0·49	−0·23	*	*
10. IRELAND, S.	Dublin	52	31	47·4	34·3	41·1	− 0·4	15	32	3	0·12	−0·42	18·9	36
	Parsonstown	53	29	46·1	31·9	39·3	− 1·0	11	40	5	0·43	−0·25	14·0	27
	Kilkenny	53	22	45·9	29·0	37·8	− 2·3	11	51	3	0·29	−0·40	*	*
	Waterford	54	23	47·4	31·6	39·8	− 2·5	15	42	3	0·40	−0·51	*	*
	Roche's Point	52	30	48·4	37·4	43·1	− 0·1	27	13	6	0·81	−0·27	*	*
	Valencia	54	34	50·4	39·0	44·9	− 0·8	33	8	7	1·29	−0·01	13·9	26
	Killarney	54	29	49·2	33·7	41·8	− 1·5	20	37	6	1·60	?	*	*
	Foynes	54	31	48·2	36·7	42·7	+ 0·5	27	15	7	1·00	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	53	42	50·6	44·9	47·9	+ 0·7	41	0	7	0·41	−0·51	*	*
	Jersey	53	32	50·7	37·6	44·4	+ 0·3	35	12	6	1·18	+0·29	14·9	26

Stations marked ‡‡ are in connection with the Royal Meteorological Society, and those marked ‡ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

(OFFICIAL COPY.)

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VI. No. 51.] *Third Series.* WEEK ENDING MONDAY, 23RD DECEMBER, 1889. [*Price 6d.* [*Annual subscription, post paid,* £1 10*s.* 0*d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

DISTRICTS. (See p. 306.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1, 1889. Above 42°.	Difference from Mean.	Below 42°.	Difference from Mean.
	°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	54	19	44·4	34·2	39·5	1 above.	7	+ 1	30	− 4	2101	+219	701	− 52
1. SCOTLAND, EAST	56	22	45·5	34·4	40·2	3 above.	10	+ 3	31	−11	2411	+ 20	731	− 50
2. ENGLAND, N.E.	55	28	46·8	37·6	42·4	4 above.	21	+14	12	−26	2577	+ 2	653	− 68
3. ENGLAND, EAST	57	28	49·1	37·8	43·6	5 above.	29	+21	12	−27	2946	− 14	816	+ 62
4. MIDLAND COUNTIES	55	29	49·1	37·7	43·6	5 above.	29	+20	12	−28	2911	− 11	783	+ 7
5. ENGLAND, SOUTH	55	29	50·0	40·4	45·4	5 above.	31	+18	4	−27	3277	+ 40	588	+ 25
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	56	30	47·2	37·9	42·7	3 above.	22	+13	11	−20	2607	+ 70	494	−114
7. ENGLAND, N.W.	54	29	47·3	39·3	43·4	3 above.	21	+11	8	−21	2752	+ 43	496	− 65
8. ENGLAND, S.W.	53	27	50·1	41·4	45·9	4 above.	30	+12	2	−16	3074	− 91	423	+ 87
9. IRELAND NORTH	55	29	48·3	39·5	43·6	3 above.	22	+ 9	7	−23	2724	+ 80	405	−137
10. IRELAND, SOUTH	57	31	50·9	41·1	46·2	4 above.	33	+14	3	−21	3063	+ 20	317	− 74
— CHANNEL ISLANDS	54	40	51·4	45·3	48·5	3 above.	43	+20	0	− 7	3654	+135	98	− 24

Rainfall.

DISTRICTS. (See p. 306.)	For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.
		10ths of In.				Ins.	Ins.
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	7	17	3 more.	241	+13	41·8	−1·7
1. SCOTLAND, EAST	6	8	1 more.	195	+ 5	25·9	−6·5
2. ENGLAND, N.E.	4	3	3 less.	180	− 6	24·0	−3·9
3. ENGLAND, EAST	5	5	1 less.	186	− 5	25·8	−0·3
4. MIDLAND COUNTIES	5	8	2 more.	173	−10	26·7	−2·8
5. ENGLAND, SOUTH	6	9	3 more.	173	− 3	25·8	−2·2
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	7	23	6 more.	206	+ 3	42·4	−6·8
7. ENGLAND, N.W.	7	17	9 more.	195	+ 4	32·3	−3·4
8. ENGLAND, S.W.	7	19	8 more.	195	− 7	36·0	−7·9
9. IRELAND, NORTH	7	17	9 more.	229	+ 2	38·4	+2·3 *
10. IRELAND, SOUTH	7	19	10 more.	206	− 4	37·1	−2·2
— CHANNEL ISLANDS	7	12	3 more.	208	−13	30·4	−3·6

Bright Sunshine.

DISTRICTS. (See p. 306.)	For the Week. Hours recorded.	Percentage of possible Duration.	From January 1, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
Principal Wheat-producing Districts. 0. SCOTLAND, NORTH	2	5	952	−231	22	− 6
1. SCOTLAND, EAST	4	10	1221	−167	28	− 4
2. ENGLAND, N.E.	7	15	1138	−124	26	− 3
3. ENGLAND, EAST	8	16	1320	−218	30	− 5
4. MIDLAND COUNTIES	4	9	1212	−167	28	− 4
5. ENGLAND, SOUTH	6	12	1291	−186	30	− 4
Principal Grazing, &c. Districts. 6. SCOTLAND, WEST	8	17	1286	− 30	30	0
7. ENGLAND, N.W.	4	7	1249	− 79	28	− 2
8. ENGLAND, S.W.	3	6	1463	−129	34	− 3
9. IRELAND, NORTH	8	16	1115	−142	26	− 3
10. IRELAND, SOUTH	8	16	1371	− 68	32	− 1
— CHANNEL ISLANDS	5	8	1701	−175	39	− 4

General Remarks.

Weather has been in a very unsettled condition over the whole Kingdom, with frequent falls of rain. In all the more western districts the rainfall has been heavy.

Temperature has been above the mean, the excess having ranged from 1° to 3° in Scotland, from 3° to 4° in Ireland, and from 3° to 5° over England. The highest of the maxima, which were recorded in most places on the 17th, ranged from 53° in "England, S.W." to 57° in "England, E." and "Ireland, S." The lowest of the minima, which occurred on the 19th over England and at some of the Irish stations, and on the 22nd in Scotland, varied from 19° in "Scotland, N." and 22° in "Scotland, E." to 31° in "Ireland, S." and to 40° in the "Channel Islands".

Rainfall has been rather less than the mean in the north-east and east of England, but more in all other districts. In the "Grazing" districts the excess has been considerable.

Bright sunshine has been very deficient, the percentage of the possible amount of duration having ranged from 5 in "Scotland, N." and 6 in "England, S.W." to 16 in "England, E." and over Ireland, and to 17 in "Scotland, W."

Barometer and Wind.—During nearly the whole of the period depressions (generally "V" shaped, and subsidiary to larger systems moving in a north-easterly direction off the north of Scotland) passed over our Islands from the Atlantic, while the barometer continued highest in the south. The wind consequently varied between South and West, and though moderate to fresh as a rule, occasionally increased to a gale in the western and northern parts of the Kingdom.

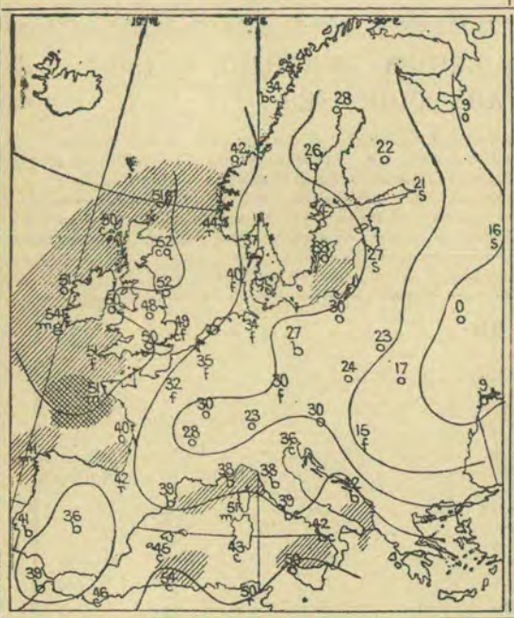
* The corresponding value for last week should read "+1·3."

61094. 350.—12/89. Wt. 36. E. & S.

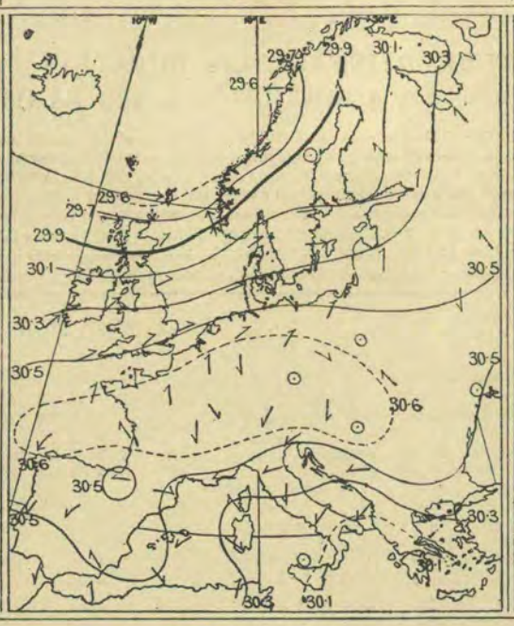
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 17th December.

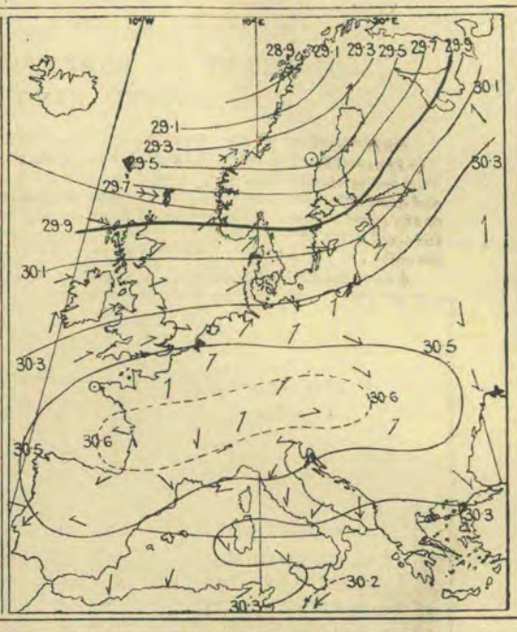
Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



6 p.m.



Weather fine over the greater part of southern Europe as well as in the north and east of Scotland. Cloudy or overcast elsewhere, with fog over Denmark, the Netherlands, France, and the south-west of England, rain in Tunis, and snow at many of the Russian stations. Rain falling later in the western and south-western parts of the United Kingdom.

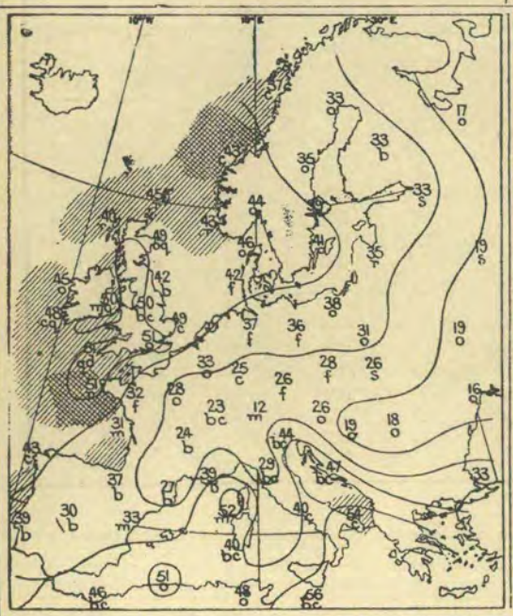
Temperature highest, 50° and upwards, in many parts of our Islands and at some of the Mediterranean stations; lowest, 10° and less, over the south and extreme north of Russia. Frost prevailing in morning over the whole of northern, eastern, and central Europe. Daily maxima over our Islands varying between 50° and 55°, but thermometer remaining below 32° in some parts of Germany and central France.

Wind moderate to strong from the Westward or South-Westward over our Islands, the Netherlands, Denmark, the Baltic, and North Germany. Southerly or South-Easterly over Norway and northern Russia, with a gale at Skudesnaes. Light or moderate from the Eastward or North-Eastward over Spain, Italy, and the extreme south of France, but chiefly Northerly in Algeria. Subsequently increasing to a fresh gale from the Westward in Caithness and the Shetlands.

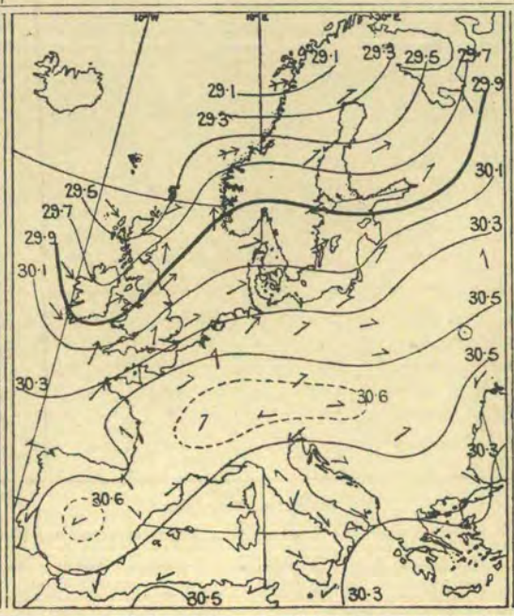
Barometer highest, 30·6 ins. and upwards, in a large anticyclonic band extending from Austria to the Bay of Biscay and Atlantic. Lowest, 29·6 ins. and less, in a large depression lying to the northward of our Islands and the westward of Norway; 30·2 ins. and less, over the extreme south of Italy and the adjacent parts of the Mediterranean. Large depression in north subsequently travelling north-eastwards, but new disturbances beginning to approach Ireland.

Wednesday, 18th December.

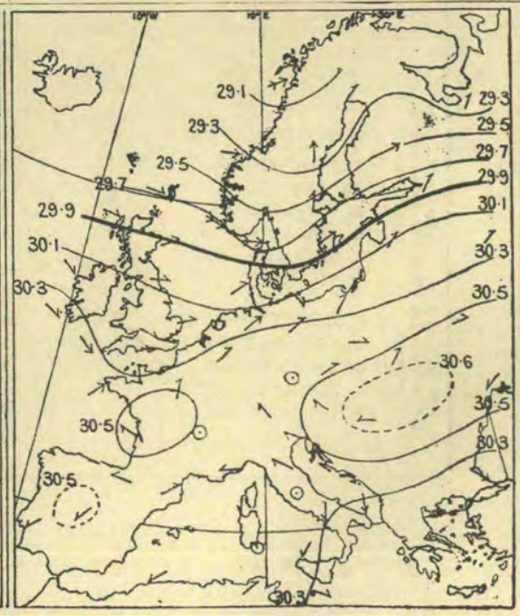
Temperature and Weather. **8 a.m.**



Barometer and Wind. **8 a.m.**



6 p.m.



Weather fine over the greater part of southern Europe and also in the north of Sweden, cloudy and overcast elsewhere. Fog prevailing over the Netherlands and Germany, rain at our western and several of the German and Austrian stations, and snow over Russia as well as at Lemberg and Constantinople. Rain falling later in all the more northern and southern parts of the United Kingdom, but weather improving in west.

Temperature highest, 50° or a little above, at some of the English, Scotch, and Mediterranean stations (56° at Malta); lowest, 20° or less, in many parts of Russia, Austria, and South Germany (12° at Munich). Frost prevailing in morning over Russia and the greater part of central Europe with central Spain and the north of Italy. Daily maxima below 32° at some of the German stations and below 40° in many parts of France, but thermometer rising to 55° and upwards over Algeria and the southern parts of Spain, France, and Italy.

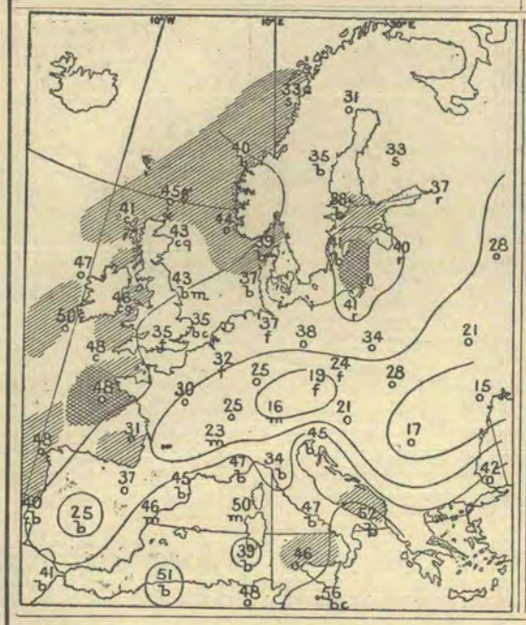
Wind North-Westerly in the Hebrides and west of Ireland; South-Westerly over Great Britain, the North Sea, Scandinavia, Denmark, and North Germany, and Westerly over Finland and the Baltic; moderate or fresh gale reported on the west coast of our Islands. Light from the North-Eastward in Spain; Northerly or North-Westerly in the south of Italy; variable in Algeria and the south of France. Subsequently veering to the Westward over Great Britain, and gale in west subsiding.

Barometer highest, 30·6 ins. and upwards, in an anticyclone lying over the northern parts of Germany and Austria and the east of France, as well as in a separate area lying over central Spain. Lowest, 29·1 ins. and less, in a large depression lying over the north of Scandinavia; 29·5 ins. and less in another disturbance lying off the north of Scotland. Trough of "V-shaped" secondary system advancing over our north-western coasts. Depression off north of Scotland, and secondary disturbances subsequently moving eastwards, and barometer rising in nearly all parts of the United Kingdom.

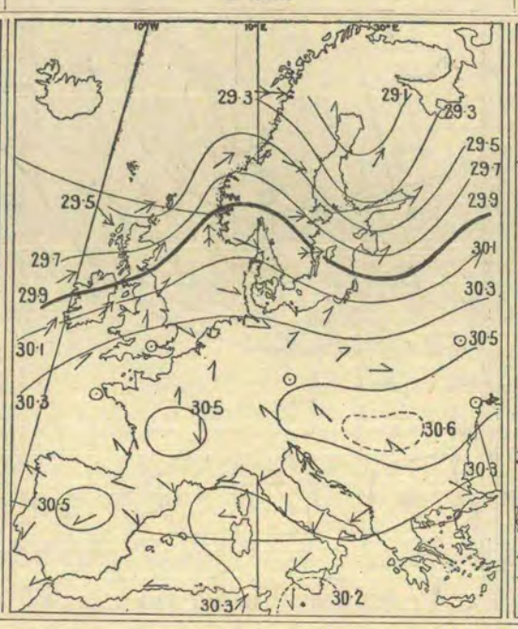
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 19th December.

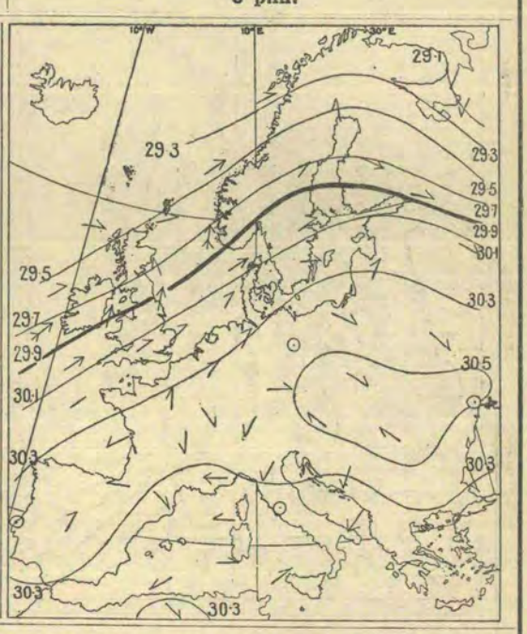
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine in the east and south of England as well as in Scandinavia, Denmark, and most parts of southern Europe. Cloudy and overcast elsewhere, with fog at some of the English, French and German stations; rain in the extreme north-west and north of our Islands as well as over the Baltic and Gulf of Finland, and snow at Uleaberg and Kuopio. Rain falling later at all our western stations, heavily in Ireland and Wales.

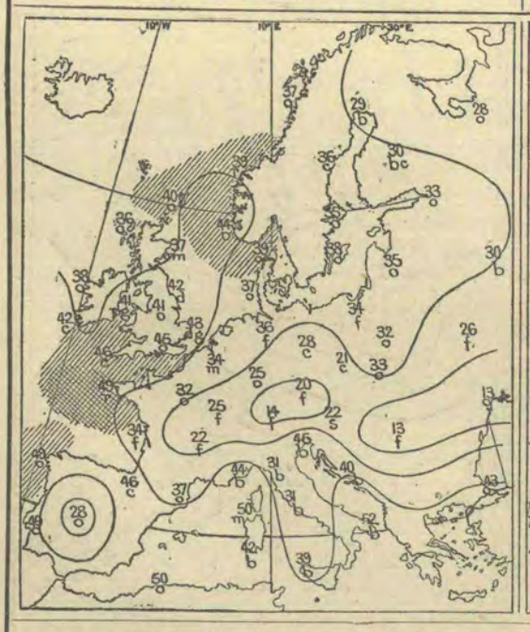
Temperature highest, 45° and upwards, in the western parts of our Islands and at the Mediterranean stations (56° at Malta); lowest, 20° or less, over the southern parts of Germany, Austria, and Russia (9° at Kharkov and Nicolaieff). Frost prevailing in morning over Germany, Austria, the central parts of France and Spain, and the central and southern parts of Russia. Daily maxima over our Islands somewhat lower than on previous day, but thermometer rising to 50°, or a little above, at some of our extreme south-western and southern stations.

Wind South-Westerly or Westerly over the greater part of northern and north-western Europe; strong to a gale in force in the west and north of our Islands, as well as over the Baltic and Gulf of Finland. Light from the Eastward or North-Eastward in all the more southern countries; variable in Algeria. No important change occurring during day.

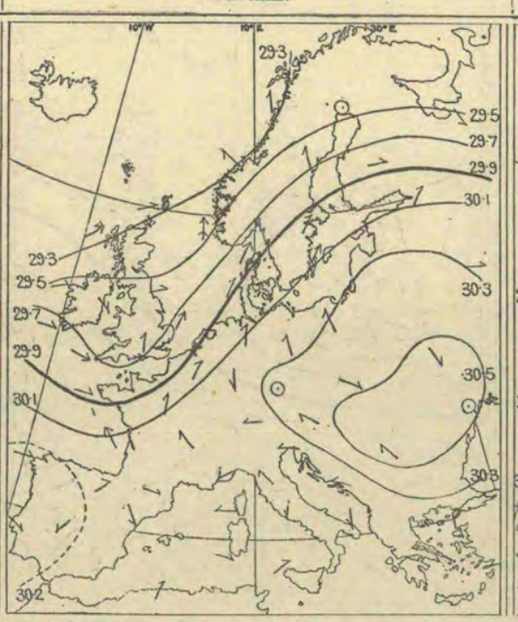
Barometer highest, 30·4 ins. to 30·6 ins. in a long band extending from Spain to the south of Russia. Lowest, 29·1 ins. and less, in a depression lying over eastern Lapland; 29·5 ins. and less in another depression lying to the northward of the Shetlands. Depression off north of Scotland subsequently travelling away in a northerly direction, but new disturbances approaching our western coasts, and barometer falling quickly in Ireland.

Friday, 20th December.

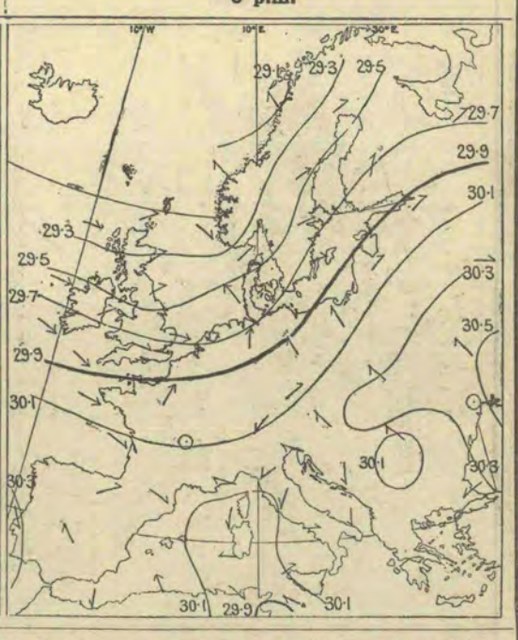
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine in Ireland, and also in Italy and the south of France, cloudy or overcast elsewhere, with fog in many parts of central Europe, rain over England, and snow at Vienna. Considerable improvement taking place over England later, but rain falling on eastern shores of North Sea.

Temperature highest, 45° and upwards, in the south of England, and at many of the Spanish and Mediterranean stations (52° at Brindisi). Lowest, 20° or less, in some parts of Germany, Austria, and Russia (13° at Hermanstadt and Odessa). Frost prevailing in morning over the whole of Russia and central Europe, as well as in the north of Italy and central Spain. Daily maxima varying between 45° and 50° over the greater part of Ireland and England, but thermometer remaining below 40° in the north of Scotland. Ground frost over central England at night.

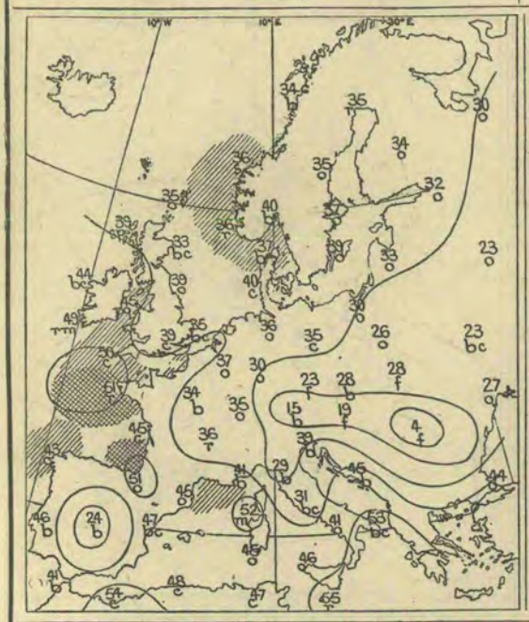
Wind North-Westerly over Wales and the west of England, but South-Westerly or Southerly in nearly all other parts of western and north-western Europe; moderate or fresh in force generally, but stiff gales reported over the eastern parts of the Channel, as well as in the south of Norway. Light from the South-Eastward in Austria; variable over Spain, Italy, Algeria, and the south of France. Subsequently shifting to the Westward in all parts of the United Kingdom, and gales in Channel moderating.

Barometer highest, 30·5 ins. and upwards, in an anticyclone lying over the southern parts of Russia and Austria; high, 30·3 ins. and upwards, in another system lying off the south of Portugal. Lowest, 29·3 ins. and less, in a large depression lying to the northward of our Islands and the westward of Norway, new trough of "V-shaped" secondary disturbance extending southwards across Great Britain. Depressions subsequently moving away north-eastwards, and barometer rising in most parts of the United Kingdom.

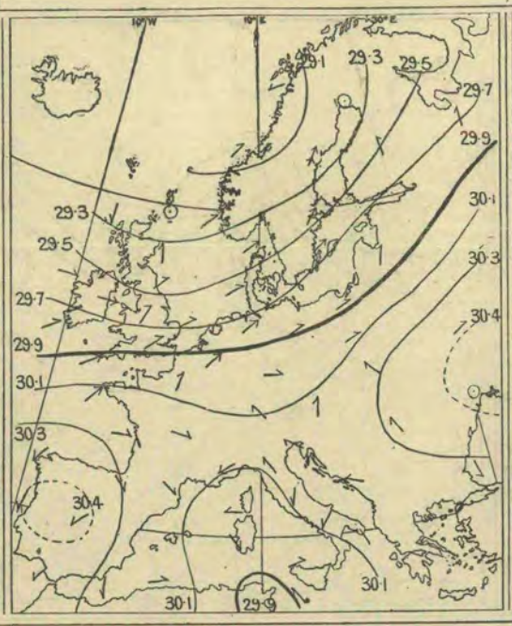
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 21st December.

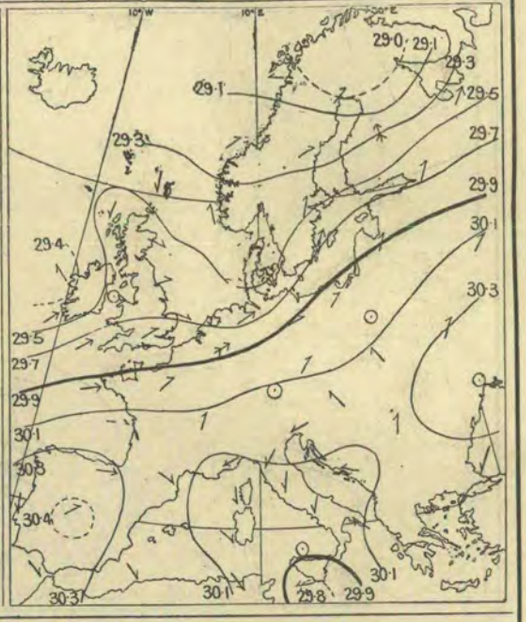
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fine and bright over the south and east of Spain and over Italy and the Adriatic; dull and rainy at Malta; very changeable and unsettled over all the northern half of Europe and the British Islands, with rain in many places. Rainfall considerable during the day over the whole of the British Islands and north-western Europe, and a very large fall occurring at Malta, and smaller amounts at the Algerian stations.

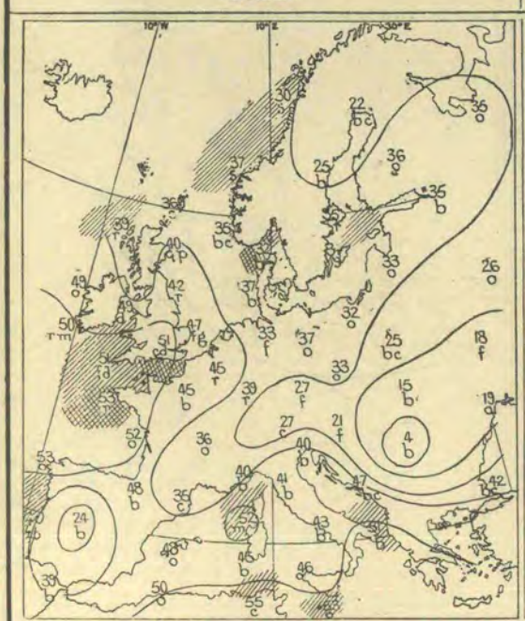
Temperature risen over western Europe, fallen in the north and east, not altered decidedly in the south. Very changeable over the north-western countries. Morning values much below the freezing point over Russia and central Europe, but exceeding 50° at some of our south-western stations, and exceeding 40° at Malin Head and Ardrossan. Daily maxima exceeding 50° over the western and southern parts of our Islands, and exceeding 60° in some parts of southern Italy.

Wind South-Westerly, strong to a gale, over northern Europe; South-Westerly to North-Westerly over the British Islands and north of France; variable between North-West and North-East over Spain; Easterly on the northern shores of the Mediterranean, and very variable over central and eastern Europe. Backing to between South-West and South-East in Ireland later and increasing in force.

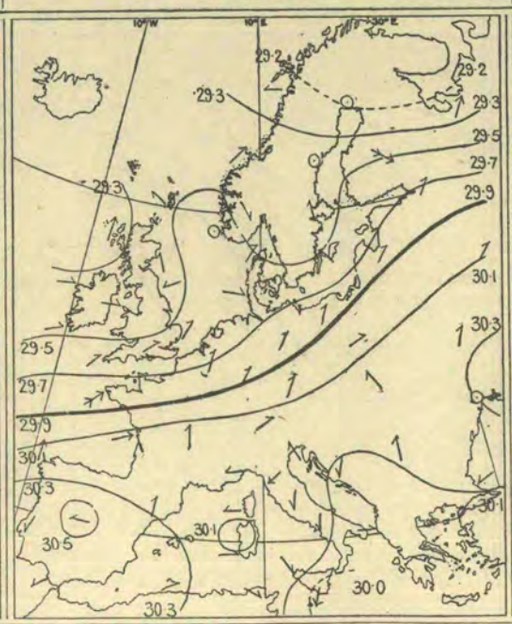
Barometer exceeding 30·1 ins. over the southern half of the Continent, and as high as 30·4 ins. to 30·5 ins. and more over southern Russia, and 30·3 ins. to 30·4 ins. and more over Spain. Lowest, 29·1 ins. and less, in a large depression lying over and off the north-west of Norway, and below 29·9 ins. in another one over the southern parts of the Mediterranean. New depression approaching Ireland later.

Sunday, 22nd December.

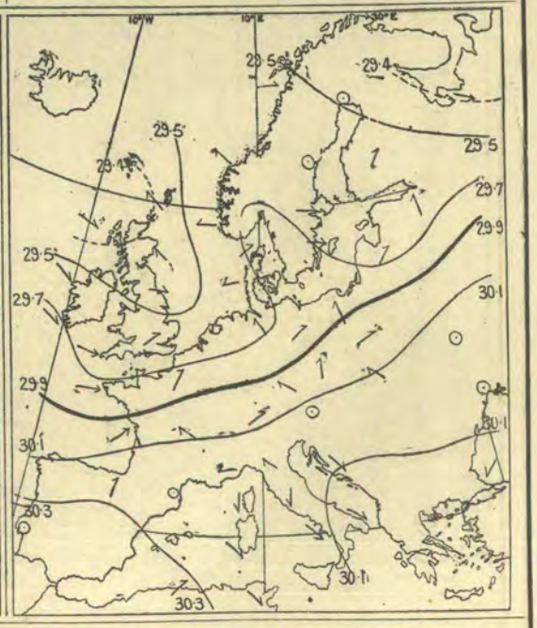
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fine and bright over the Mediterranean, south-western and south-eastern Europe; very changeable and unsettled in the north-west and north. Rain falling generally over the British Islands, central and north-western Europe later, but not in large amounts, except at some of the German stations and Charleville.

Temperature risen over England, France, and Germany, and very high for the time of year over the United Kingdom. Morning values above 50° at all our south-western and southern stations, as well as in the west of France, the north-west of Spain, and at La Calle, Malta, and Brindisi. Daily maxima not higher than the morning values in the United Kingdom, and not touching 60° at any of the Italian or Algerian stations (except at Aumale).

Wind varying in direction between South-West and North-West over the whole of the northern half of Europe; blowing a gale from those quarters over Finland and northern Russia, and from West-South-West over the English Channel and Brittany; very variable in direction over southern and south-eastern Europe, but not strong at any station. Gale in far north lulling subsequently.

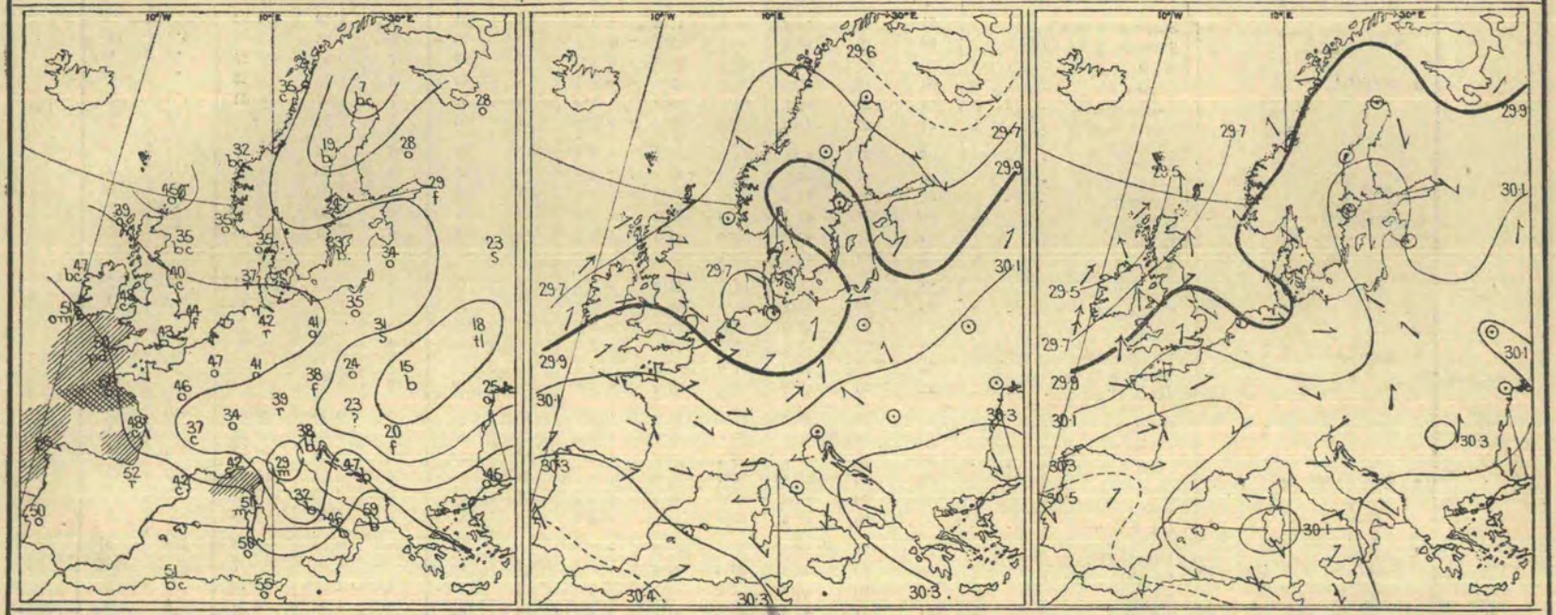
Barometer highest, 30·5 ins. to 30·2 ins., over Spain and the south-west of France, and 30·4 ins. to 30·2 ins. over southern Russia; lowest, 29·2 ins. and less, over Lapland and the White Sea, and also in a depression off our extreme north-western coasts. A "V"-shaped secondary to the latter disturbance found over the north and east of England later, and moving eastwards to the German Ocean.

II.—SUMMARY OF WEATHER OVER EUROPE.

Monday, 23rd December.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.** | **6 p.m.**



Weather in a very changeable condition all over Europe; sky temporarily clear in some regions, overcast in others, with rain in many districts, snow at Moscow and Warsaw. Rain during the ensuing 24 hours in all parts of the British Islands and their neighbourhood, slight in most places, but heavy in a few localities.

Temperature continuing to change irregularly, but remaining high for time of year over the British Islands and north-western Europe. Still low over Austria and southern Russia, but not below zero anywhere. Daily maxima 50° to 54° over greater part of the United Kingdom, and exceeding 60° at some places in the extreme south-west of France and Algeria, but not in Italy.

Wind light from between North-West and South-West over England, Westerly over the Bay of Biscay, and moderate from the Southward over Ireland; South-Westerly to Southerly over Germany, South-Easterly in Denmark, light and very variable elsewhere, with calms in Sweden. Blowing a moderate gale from the southward in Ireland later, and a light to moderate breeze from the same quarter over England.

Barometer readings at 8 a.m. exceeding 30·1 ins. over the southern half of Europe, and ranging between 30·3 ins. and 30·4 ins. over Spain, and exceeding 30·2 ins. over the south of Russia; below 29·7 ins. over northern Europe and off the north-western parts of the British Isles, as well as in a secondary system lying over the North Sea near the mouth of the Elbe. Fresh fall taking place in the west of our Islands later, but a rise at stations lying to the eastward of the North Sea.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟫⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

Throughout this week barometric pressure has been highest over the southern half of Europe, lowest in the north-west and north: in the latter regions well-marked depressions have occurred, moving in a north-easterly direction, while their secondary systems (chiefly "V"-shaped) have passed over the United Kingdom and the North Sea. Winds from between South-West and North-West have been almost continuously present over the more northern countries, with mild, misty, wet weather; but in the intervals between the different disturbances the thermometer has occasionally fallen decidedly, and slight frosts have occurred in the nights. Over eastern and central Europe temperature has been continuously low.

III.—DATA from which the SUMMARY on page 301 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the week. Of Highest each day.	Of Lowest each day.	For whole of the day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches	Inches.		
0. SCOTLAND, N.	Sumburgh Head	51	29	45·0	37·0	41·2	+ 1·0	8	21	7	1·29	+0·32	*	*
	Stornoway	50	29	44·4	35·7	40·1	+ 0·6	7	24	7	1·96	+0·68	5·3	12
	Wick	50	25	44·0	35·0	39·7	+ 0·6	6	27	7	0·45	−0·25	*	*
	Lairg	53	19	43·4	30·1	37·0	− 0·7	4	44	6	1·17	+0·23	*	*
	Glencarron	52	27	44·7	34·0	39·6	+ 1·6	8	32	7	2·87†	+0·62	0·0	0
	Fort Augustus	54	27	45·0	33·3	39·4	+ 0·4	8	34	6	2·22†	?	1·0	2
1. SCOTLAND, E.	Nairn	55	27	46·1	34·6	40·6	+ 2·4	11	31	5	0·55	+0·07	*	*
	Aberdeen	55	27	45·9	35·3	40·8	+ 3·0	11	28	4	0·60	−0·13	1·7	4
	Braemar	52	22	44·2	31·2	38·0	+ 3·4	6	41	5	1·24	+0·53	3·8‡	9‡
	Ochtertyre	56	27	45·3	32·6	39·2	+ 1·6	9	37	6	1·39	+0·32	*	*
	Leith	55	31	47·3	38·4	43·0	+ 4·8	22	10	6	0·71	+0·26	*	*
	Marchmont	51	28	44·4	34·1	39·5	+ 3·5	7	31	7	0·54	−0·24	7·5	16
2. ENGLAND, N.E.	Alnwick Castle	52	30	45·4	38·4	42·2	+ 4·0	17	10	4	0·52	−0·21	*	*
	Durham	54	28	47·5	34·3	41·2	+ 3·0	15	33	4	0·22	−0·48	8·9	19
	Shields	55	34	47·6	39·6	43·8	+ 4·6	23	7	5	0·34	−0·26	*	*
	Scarborough	52	34	45·5	37·1	41·5	+ 3·3	10	21	4	0·36	−0·30	? ‡	?‡
	York	54	33	47·9	37·0	42·7	+ 4·0	26	14	4	0·30	−0·23	5·0	10
	Spurn Head	52	36	47·0	38·9	43·1	+ 4·8	21	9	3	0·31	?	*	*
3. ENGLAND, E.	Hillington	57	28	48·2	37·1	42·9	+ 4·7	27	14	5	0·48	−0·09	6·0	12
	Yarmouth	52	32	47·9	37·1	42·7	+ 3·5	25	14	6	0·32	−0·33	*	*
	Geldeston	53	30	49·1	38·4	44·0	+ 4·8	29	10	5	0·34	−0·18	9·8	18
	Cambridge	54	30	51·1	36·4	44·0	+ 5·3	38	16	6	0·53	+0·09	9·0	17
	Rothamsted	53	32	48·8	39·6	44·4	+ 6·2	27	7	6	0·68	+0·09	*	*
	Ingatestone	52	30	49·2	37·9	43·8	+ 4·6	30	11	5	0·53	+0·09	*	*
4. MIDLAND	Bawtry (Hesley Hall)	55	31	48·4	35·0	42·0	+ 2·8	18	20	4	0·39	−0·15	1·3‡	3‡
	Loughborough	54	30	50·3	38·4	44·6	+ 6·4	33	10	4	0·90	+0·37	5·9‡	12‡
	Cheadle	52	30	46·5	37·2	42·0	+ 3·9	13	13	6	1·07	+0·73	*	*
	Churchstoke	54	31	48·9	38·1	43·7	+ 5·1	28	11	6	1·22	+0·51	2·8	6
	Hereford	54	30	49·9	38·8	44·6	+ 5·7	32	9	6	0·54	0·00	*	*
	Cirencester	51	29	48·4	36·9	42·9	+ 4·0	28	14	6	0·87	+0·19	4·5	8
	Oxford	54	34	51·4	39·4	45·6	+ 6·4	36	7	6	0·49	0·00	7·5	14
5. ENGLAND, S.	London	55	34	50·3	39·9	45·3	+ 6·1	32	6	6	0·66	+0·17	3·3‡	6‡
	Strathfield Turgiss	54	29	50·4	37·0	44·0	+ 4·8	35	14	7	0·97	+0·46	*	*
	Dungeness	54	33	49·7	41·9	46·0	+ 4·3	28	0	5	0·56	−0·15	*	*
	Hastings (St. Leonard's)	52	37	48·9	42·4	45·8	+ 4·4	27	0	7	0·79	+0·11	10·8	20
	Southampton	53	32	50·8	41·2	46·2	+ 6·8	33	2	7	1·33	+0·62	6·9	13
	Hurst Castle	53	33	50·3	41·7	46·2	+ 4·4	31	1	7	0·92	+0·29	*	*
	Stowell	53	29	49·4	38·6	44·2	+ 4·2	30	10	6	1·21	?	3·9‡	7‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	56	32	46·9	37·6	42·4	+ 2·2	21	12	7	3·61†	+1·44	*	*
	Glasgow	52	34	45·7	36·6	41·3	+ 2·4	10	23	7	1·61	+0·63	8·7	19
	Ardrossan	52	34	47·7	40·3	44·2	+ 5·2	23	5	7	1·34	+0·43	*	*
	Glenlee	53	30	47·1	35·0	41·3	+ 2·8	14	30	7	3·34	+1·93	*	*
	Douglas (Isle of Man)	52	35	48·4	39·8	44·3	+ 3·0	25	6	7	1·64	+0·62	7·7	15
7. ENGLAND, N.W.	Newton Reigny (Penrith)	51	30	45·9	34·8	40·6	+ 2·9	11	30	7	1·60	+0·81	5·5	11
	Barrow-in-Furness	49	37	46·3	41·0	43·8	+ 2·7	17	3	7	1·83	+1·04	*	*
	Stonyhurst	51	33	46·2	36·9	41·7	+ 2·7	12	22	7	2·03	+0·94	2·5	5
	Blackpool	50	36	47·6	39·7	43·8	+ 2·6	22	6	7	1·81	+1·06	3·1	6
	Manchester	51	29	46·4	37·5	42·1	+ 2·7	20	13	7	1·47	+0·63	*	*
	Liverpool Obs^{y} (Bidston)	54	36	49·3	41·4	45·5	+ 5·0	27	2	6	1·19	+0·59	*	*
	Llandudno	51	40	49·3	43·7	46·6	+ 2·7	32	0	7	2·17	+1·31	*	*
	Holyhead													
8. ENGLAND, S.W.	Llandovery	53	27	49·1	38·0	43·8	+ 3·3	29	11	7	1·93	+0·71	*	*
	Pembroke	51	40	50·3	45·1	47·8	+ 4·6	41	0	7	1·76	+0·85	3·8	7
	Arlington (N. Devon)	52	35	48·9	42·0	45·6	+ 4·9	25	0	7	2·35	+0·96	*	*
	Cullompton	53	28	50·3	38·1	44·4	+ 3·2	33	11	6	1·42	+0·61	2·9	5
	Falmouth	53	37	50·5	43·1	46·9	+ 2·6	34	0	7	2·15	+0·94	5·0	9
	Plymouth	53	34	51·5	40·0	46·0	+ 3·0	36	6	6	1·93	+1·09	1·9	3
	Prawle Point	52	37	50·3	43·4	47·0	+ 4·1	35	0	7	1·61	?	*	*
9. IRELAND, N.	Malin Head	51	36	47·6	39·7	43·8	+ 3·1	22	6	7	1·89	?	*	*
	Londonderry	54	34	47·5	38·7	43·3	+ 2·6	23	9	7	1·68	+0·78	*	*
	Mullaghmore	54	33	49·9	40·0	45·2	+ 3·2	31	6	7	2·19	+1·25	*	*
	Belmullet	53	37	49·3	41·0	45·3	+ 1·3	27	3	7	2·35	?	*	*
	Markree Castle	53	30	47·6	33·0	43·0	+ 1·8	24	11	7	2·15	+1·36	6·6	13
	Brookeborough	52	31	46·7	36·5	41·8	+ 1·8	13	24	7	1·68	?	*	*
	Armagh	54	33	49·1	38·3	43·9	+ 3·7	29	10	6	0·95	+0 31	8·9	18
	Donaghadee	55	32	47·7	38·1	43·1	+ 1·8	24	11	6	0·68	+0·03	*	*
	Edgeworthstown	54	29	49·0	36·1	42·8	+ 2·9	30	17	7	1·24	+0·54	*	*
10. IRELAND, S.	Dublin	57	36	51·6	40·5	46·3	+ 5·0	36	4	6	0·83	+0·28	11·6	23
	Parsonstown	55	32	50·3	39·0	44 9	+ 4·7	33	8	7	1·18	+0·49	5·6	11
	Kilkenny	55	31	49·9	39·0	44·7	+ 4·8	32	8	6	1·24	+0·52	*	*
	Waterford	51	34	49·4	41·6	45·7	+ 3·7	28	1	7	1·65	+0·71	*	*
	Roche's Point	53	38	51·0	43·0	47·2	+ 4·0	36	0	7	2·56	+1·47	*	*
	Valencia	54	39	51·7	43·4	47·7	+ 2·1	40	0	7	2·71	+1·38	7·5	14
	Killarney	55	35	51·9	41·2	46·8	+ 3·4	37	2	7	2·72	?	*	*
	Foynes	55	36	51·0	41·3	46·3	+ 4·4	33	2	6	2·04	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	53	40	51·7	45·6	48·8	+ 1·6	48	0	7	1·23	+0 31	*	*
	Jersey	54	42	51·1	45·0	48·2	+ 4·6	43	0	7	1·10	+0 26	4·7	8

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked S with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland, N." and "Scotland, W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

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QUARTERLY SUMMARY OF THE WEEKLY WEATHER REPORT, 1889.

VOL. VI. APPENDIX I.] *New Series.* FIRST QUARTER—JANUARY TO MARCH. [*Price 4d.*

TABLE I.—SUMMARY OF RAINFALL AND MEAN TEMPERATURE, FOR THE FIRST QUARTER OF THE TWENTY-FOUR YEARS, 1866 TO 1889.

	YEARS.	Principal Wheat-producing Districts.												Principal Grazing, &c. Districts.												Channel Islands.		Means for the British Islands generally.	
		0. Scotland, N.		1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat-producing Districts.		6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.		Means for the Grazing, &c. Districts.					
		Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.
RAINFALL (in Inches).	1866	—	14·8	—	11·3	—	5·8	—	7·4	—	7·1	—	11·4	—	8·6	—	15·4	—	13·4	—	16·9	—	13·7	—	12·0	—	14·3	—	—	—	11·5
	1867	—	10·7	—	9·5	—	5·4	—	5·7	—	8·1	—	8·8	—	7·5	—	9·9	—	11·1	—	15·2	—	11·8	—	10·7	—	11·7	—	—	—	9·6
	1868	—	19·1	—	11·7	—	4·9	—	5·4	—	6·7	—	7·5	—	7·2	—	17·6	—	13·3	—	11·9	—	13·0	—	10·5	—	13·3	—	—	—	10·3
	1869	—	11·8	—	8·9	—	6·2	—	6·2	—	7·7	—	9·0	—	7·6	—	11·4	—	12·2	—	14·0	—	12·1	—	12·1	—	12·4	—	—	—	10·0
	1870	—	6·4	—	6·7	—	4·8	—	3·9	—	5·1	—	6·0	—	5·3	—	8·8	—	9·0	—	10·7	—	8·6	—	9·7	—	9·4	—	—	—	7·4
	1871	—	9·4	—	6·9	—	3·8	—	3·9	—	4·8	—	6·1	—	5·1	—	11·7	—	8·7	—	10·0	—	10·7	—	9·4	—	10·1	—	—	—	7·6
	1872	—	8·2	—	11·2	—	7·8	—	6·1	—	9·8	—	10·1	—	9·0	—	15·2	—	14·0	—	19·5	—	12·7	—	13·1	—	14·9	—	—	—	12·0
	1873	—	7·9	—	7·2	—	5·3	—	5·4	—	7·1	—	8·4	—	6·7	—	10·0	—	9·6	—	14·1	—	8·8	—	11·9	—	10·9	—	—	—	8·8
	1874	—	11·5	—	6·5	—	3·5	—	3·1	—	5·7	—	4·4	—	4·6	—	8·6	—	11·0	—	12·5	—	8·4	—	7·7	—	9·6	—	—	—	7·1
	1875	—	8·4	—	7·0	—	3·9	—	3·7	—	5·8	—	6·7	—	5·4	—	9·8	—	8·7	—	12·6	—	7·1	—	10·2	—	9·7	—	—	—	7·6
	Means for 10 years, 1866–75	—	10·8	—	8·7	—	5·1	—	5·1	—	6·8	—	7·8	—	6·7	—	11·8	—	11·1	—	13·7	—	10·7	—	10·7	—	11·6	—	—	—	9·2
	1876	—	13·4	—	9·5	—	6·3	—	6·7	—	8·2	—	7·5	—	7·6	—	12·1	—	12·0	—	10·9	—	10·0	—	10·0	—	11·0	—	—	—	9·3
	1877	—	11·9	—	9·8	—	7·1	—	7·6	—	8·3	—	10·7	—	8·7	—	14·2	—	15·4	—	14·2	—	13·4	—	11·4	—	13·7	—	—	—	11·2
	1878	67	9·3	40	4·3	45	4·8	52	4·5	43	3·9	42	5·1	44	4·5	53	11·0	51	7·2	41	6·1	60	8·3	52	7·8	51	8·1	56	6·1	48	6·3
	1879	54	5·5	46	6·9	55	5·1	54	6·2	48	6·1	49	8·2	50	6·5	47	8·5	43	6·7	54	11·2	60	6·7	55	11·2	52	8·9	63	11·7	51	7·7
	1880	49	7·4	41	5·5	34	3·3	38	3·4	35	4·3	38	4·7	37	4·2	49	10·3	40	6·2	47	6·9	49	7·5	50	9·8	47	8·1	50	6·0	42	6·2
	1881	60	9·2	46	7·4	51	6·3	47	5·8	42	6·4	39	6·7	45	6·5	46	9·5	42	8·6	45	9·7	51	7·7	44	8·7	46	8·8	51	9·0	46	7·7
	1882	72	10·3	48	5·2	32	3·1	32	4·3	35	5·6	34	3·6	36	4·4	62	11·9	49	7·8	49	7·1	63	8·3	59	9·7	57	9·0	48	5·8	47	6·7
	1883	65	8·9	52	6·5	53	5·8	51	6·4	49	7·4	49	7·5	51	6·7	56	12·2	51	8·5	55	10·4	63	10·2	57	13·8	57	11·0	63	8·8	54	8·9
	1884	66	12·1	52	6·4	44	6·2	42	3·9	47	6·7	48	6·7	46	6·0	68	17·1	57	11·5	62	12·2	70	12·2	72	15·4	66	13·7	59	9·2	56	9·9
	1885	63	9·1	46	5·4	45	4·4	48	5·3	50	6·1	45	7·3	47	5·7	57	11·9	53	7·7	54	9·1	57	8·4	58	11·8	56	9·8	62	8·2	52	7·8
	Means for 10 years, 1876–85	—	9·7	—	6·7	—	5·2	—	5·4	—	6·3	—	6·8	—	6·1	—	11·9	—	9·2	—	9·8	—	9·3	—	11·0	—	10·2	—	—	—	8·2
	1886	70	9·5	55	5·9	56	6·3	54	4·9	49	6·5	48	6·3	53	6·0	57	11·2	54	9·0	57	10·8	58	10·0	55	11·2	56	10·4	68	8·9	55	8·2
	1887	60	12·1	43	5·3	38	3·8	33	3·8	35	4·1	34	4·1	36	4·2	47	9·7	38	5·9	38	5·5	47	7·3	40	7·6	41	7·2	42	4·3	39	5·7
	1888	62	10·2	55	6·9	49	5·6	50	5·1	43	4·6	46	5·8	49	5·6	41	8·6	51	5·0	48	7·1	47	7·2	41	7·6	46	7·1	61	7·3	48	6·4
	1889	72	13·8	52	4·8	46	4·8	47	3·9	43	5·6	47	5·1	47	4·8	58	10·6	51	6·0	48	9·1	66	8·6	55	8·6	56	8·6	58	6·7	52	6·7
	Means for 24 years, 1866–89	—	10·5	—	7·4	—	5·2	—	5·1	—	6·3	—	7·0	—	6·2	—	11·6	—	9·5	—	11·2	—	9·7	—	10·5	—	10·5	—	—	—	8·4
MEAN TEMPERATURE (in Degrees Fahrenheit).	1866	38°3		38°8		39°1		40°9		40°4		41°9		40°2		40°0		40°6		43°4		39°9		40°3		40°8		°		40°5	
	1867	36°9		37°2		36°8		38°6		38°2		39°2		38°0		37°7		38°6		41°4		38°1		39°9		39°1		—		38°6	
	1868	40°7		41°7		41°1		41°4		41°9		42°0		41°6		42°3		42°4		44°4		42°1		44°3		43°1		—		42°4	
	1869	40°0		40°3		40°6		41°1		41°2		42°0		41°0		42°0		42°1		45°1		42°9		44°6		43°3		—		42°2	
	1870	37°9		37°4		37°1		37°4		38°0		38°2		37°6		38°6		38°7		41°3		39°8		41°6		40°0		—		38°8	
	1871	40°0		39°7		38°8		39°2		40°1		40°3		39°6		40°0		40°0		43°3		41°6		43°4		41°7		—		40°7	
	1872	40°9		40°9		41°3		42°3		42°9		43°7		42°2		42°9		43°3		46°1		42°4		44°5		43°8		—		43°0	
	1873	39°0		38°4		38°5		38°9		39°1		39°9		39°0		39°2		39°7		42°6		39°8		41°0		40°5		—		39°8	
	1874	41°7		41°8		41°3		40°4		41°0		42°0		41°3		42°3		41°8		45°0		42°8		45°2		43°4		—		42°4	
	1875	39°5		39°0		38°8		38°6		39°2		40°2		39°2		39°8		40°2		42°9		41°6		44°6		41°8		—		40°5	
	Means for 10 years, 1866–75	39°5		39°5		39°3		39°9		40°2		40°9		40°0		40°5		40°7		43°6		40°1		42°9		41°8		—		40°9	
	1876	38°7		38°3		39°2		39°0		38°9		40°0		39°1		39°5		39°8		42°4		40°1		43°3		41°0		—		40°1	
	1877	38°4		38°8		40°4		41°7		41°8		43°1		41°2		40°5		41°8		44°9		41°4		45°2		42°8		—		42°0	
	1878	39°4		40°1		40°8		40°6		41°8		41°7		41°0		41°9		42°2		44°2		42°5		45°1		43°2		43°8		42°1	
	1879	35°8		34°2		35°9		36°5		36°4		37°8		36°2		36°5		36°8		40°8		38°0		40°5		38°5		42°4		37°4	
	1880	40°6		39°8		39°5		39°2		39°9		40°5		39°8		41°3		40°6		43°5		42°2		44°1		42°3		42°4		41°1	
	1881	34°4		33°5		34°3		36°1		35°8		38°2		35°6		35°3		36°6		39°9		37°5		39°8		37°8		44°5		36°7	
	1882	41°8		42°9		42°8		42°1		42°6		43°5		42°8		43°7		43°5		44°9		44°8		46°0		44°6		44°7		43°7	
	1883	38°7		38°8		38°8		39°0		39°2		40°8		39°3		40°2		40°1		42°2		40°9		42°5		41°2		44°8		40°3	
	1884	40°7		41°2		41°9		42°4		42°6		43°8		42°4		42°4		42°4		44°5		42°7		44°8		43°4		46°5		42°9	
	1885	38°4		38°3		39°2		39°2		39°3		40°7		39°3		39°6		39°7		41°9		40°6		42°2		40°8		43°9		40°1	
	Means for 10 years, 1876–85	38°7		38°6		39°3		39°6		39°8		41°0		39°7		40°1		40°4		42°9		41°1		43°4		41°6		—		40°6	
	1886	36°5		36°1		36°2		35°6		36°0		37°2		36°2		37°2		36°9		38°4		38°6		40°0		38°2		42°0		37°2	
	1887	39°4		39°2		38°7		37°5		37°8		38°7		38°4		39°8		39°0		40°4		41°3		42°3		40°6		42°7		39°5	
	1888	36°2		36°3		37°3		36°5		36°8		37°4		36°9		38°1		37°7		38°5		39°4		40°5		38°8		41°6		37°9	
	1889	38°5		38°6		38°6		37°5		38°2		39°0		38°4		40°1		39°7		40°8		41°3		42°9		41°0		44°1		39°7	
	Means for 24 years, 1866–89	38°9		38°8		39°0		39°2		39°5		40°5		39°4		40°0		40°2		42°6		40°9		42°9		41°3		—		40°4	

TABLE Ia.—SHOWING THE DATES OF THE DRIEST AND WETTEST, AND OF THE COLDEST AND WARMEST CORRESPONDING QUARTERS FOR THE TWENTY-FOUR YEARS, 1866 TO 1889.

		Wheat Districts.	Grazing, &c. Districts.	Generally.
Rainfall	Driest	Ins. 4·2 in 1880 and 1887	Ins. 7·1 in 1888	Ins. 5·7 in 1887
	Wettest	9·0 in 1872	14·9 in 1872	12·0 in 1872
Temperature	Coldest	35°6 in 1881	37°8 in 1881	36°7 in 1881
	Warmest	42°8 in 1882	44·6 in 1882	43·7 in 1882

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TABLE II.—SHOWING THE RAINFALL, ACCUMULATED TEMPERATURE, AND BRIGHT SUNSHINE FOR EACH MONTH, AND THE PROGRESSIVE VALUES FROM THE COMMENCEMENT OF THE YEAR, FOR THE FIRST QUARTER, 1889.

YEAR AND MONTHS.	Principal Wheat-producing Districts.												Principal Grazing, &c. Districts.												Channel Islands.		Means for the British Islands generally.	
	0. Scotland, N.		1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat producing Districts.		6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.		Means for the &c. Grazing, &c. Districts.					
	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.
Rainfall.—Numbers of Days with Rain.																												
January -	19	19	12	12	12	12	10	10	10	10	10	10	11	11	15	15	11	11	10	10	18	18	15	15	14	14	12	12	13	13
February -	25	44	21	33	17	29	19	29	17	27	19	29	19	30	21	36	19	30	19	29	24	42	22	37	21	35	26	38	20	33
March -	28	72	19	52	17	46	18	47	16	43	18	47	18	48	22	58	21	51	19	48	24	66	18	55	21	56	20	58	20	53
Rainfall.—Amounts in Inches.																												
January -	3·34	3·34	1·01	1·01	0·98	0·98	0·69	0·69	0·74	0·74	0·71	0·71	0·83	0·83	3·39	3·39	0·91	0·91	1·48	1·48	2·86	2·86	3·67	3·67	2·46	2·46	1·46	1·46	1·65	1·65
February -	6·24	9·58	2·05	3·06	1·02	2·00	1·71	2·40	1·82	2·56	2·35	3·06	1·79	2·62	4·40	7·79	2·86	3·77	3·81	5·29	3·30	6·16	3·09	6·76	3·49	5·95	2·80	4·26	2·64	4·29
March -	4·24	13·82	1·76	4·82	2·82	4·82	1·54	3·94	3·08	5·64	2·07	5·13	2·25	4·87	2·76	10·55	2·21	5·98	3·80	9·09	2·44	8·60	1·84	8·60	2·61	8·56	2·40	6·66	2·43	6·72
Accumulated Heat.—Day Degrees above 42° F.																												
January -	35	35	33	33	17	17	7	7	14	14	12	12	17	17	47	47	18	18	40	40	53	53	76	76	47	47	90	90	32	32
February -	11	46	28	61	25	42	25	32	33	47	38	50	30	47	33	80	34	52	62	102	60	113	96	172	57	104	87	177	44	76
March -	43	89	79	140	81	123	97	129	104	151	99	149	92	139	75	155	69	121	100	202	100	213	124	296	94	198	111	288	93	169
Accumulated Heat.—Day Degrees below 42° F.																												
January -	102	102	136	136	137	137	201	201	190	190	151	151	163	163	80	80	103	103	85	85	85	85	61	61	83	83	17	17	123	123
February -	173	275	164	300	144	281	172	373	152	342	129	280	152	315	123	203	105	208	86	171	86	171	55	116	91	174	19	36	122	245
March -	168	443	176	476	158	439	184	557	163	505	147	427	166	481	123	326	128	336	123	294	98	269	83	199	111	285	41	77	139	384
Bright Sunshine.—Numbers of Hours.																												
January -	21	21	44	44	36	36	34	34	33	33	38	38	37	37	27	27	36	36	47	47	21	21	37	37	34	34	72	72	36	36
February -	34	55	65	109	65	101	59	93	54	87	49	87	58	95	78	105	63	99	72	119	65	86	72	109	70	104	60	132	64	100
March -	95	150	98	207	105	206	104	197	105	192	100	187	102	197	107	212	100	199	123	242	95	181	134	243	112	216	165	297	107	207
Bright Sunshine.—Percentages of possible Duration.																												
January -	11	10	21	20	16	11	15	13	14	13	17	16	17	15	13	11	17	15	20	22	10	14	17	22	15	17	31	46	16	16
February -	14	11	26	24	25	20	22	18	20	17	18	17	22	19	30	20	24	19	26	22	25	16	28	21	27	20	21	26	25	20
March -	24	18	24	24	25	22	26	21	26	20	24	19	25	21	27	23	24	22	30	25	23	19	33	26	27	23	40	30	26	22

1889.

EXPLANATION OF TABLES.

TABLES I. and IA. are merely in continuation of the Tables given in the Quarterly Summaries of the Weekly Weather Reports, 1884-88. The whole of the values for 1878-89, however, have been corrected by information received since they were first published.

TABLE II. In this Table the monthly values for *January* are those for the first four weeks in the year; those for *February* are for the fifth to the eighth weeks; those for *March* are for the ninth to the thirteenth weeks.

The figures given in the columns headed "From Jan. 1" are the values for the whole period elapsed since the beginning of the first week of the year.

In the "Means for the Wheat Districts" the values for District 0, and in the "Means for the "Grazing, &c. Districts" the values for the "Channel Islands," are not included.

The Means for the British Islands generally are those for the Wheat Districts and Grazing Districts combined.

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QUARTERLY SUMMARY OF THE WEEKLY WEATHER REPORT, 1889.

VOL. VI. APPENDIX I.] *New Series.* SECOND QUARTER—APRIL TO JUNE. [*Price 4d.*

TABLE I.—SUMMARY OF RAINFALL AND MEAN TEMPERATURE, FOR THE SECOND QUARTER OF THE TWENTY-FOUR YEARS, 1866 TO 1889.

	YEARS.	Principal Wheat-producing Districts.												Principal Grazing, &c. Districts.												Channel Islands.		Means for the British Islands generally.	
		0. Scotland, N.		1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat-producing Districts.		6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.		Means for the Grazing, &c. Districts.					
		Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.
RAINFALL (in Inches).	1866	—	6·2	—	4·8	—	5·2	—	6·0	—	6·3	—	6·7	—	5·8	—	5·1	—	6·3	—	6·5	—	6·7	—	8·2	—	6·6	—	—	—	6·2
	1867	—	10·6	—	8·0	—	6·8	—	6·2	—	6·7	—	5·8	—	6·7	—	10·5	—	8·3	—	10·0	—	10·0	—	9·3	—	9·6	—	—	—	8·2
	1868	—	10·9	—	6·1	—	3·7	—	3·2	—	3·3	—	4·1	—	4·1	—	7·7	—	4·4	—	5·9	—	6·6	—	6·3	—	6·2	—	—	—	5·2
	1869	—	6·7	—	5·3	—	7·5	—	5·0	—	7·5	—	6·6	—	6·4	—	4·8	—	7·6	—	8·2	—	7·7	—	7·8	—	7·2	—	—	—	6·8
	1870	—	9·5	—	4·1	—	4·3	—	2·3	—	2·5	—	2·4	—	3·1	—	7·4	—	5·7	—	4·2	—	6·4	—	4·6	—	5·7	—	—	—	4·4
	1871	—	4·3	—	6·1	—	7·5	—	7·5	—	7·5	—	7·7	—	7·3	—	8·3	—	7·7	—	8·4	—	7·5	—	7·7	—	7·9	—	—	—	7·6
	1872	—	11·4	—	10·4	—	7·4	—	6·6	—	8·6	—	8·5	—	8·3	—	11·2	—	12·0	—	10·9	—	9·8	—	7·6	—	10·3	—	—	—	9·3
	1873	—	7·9	—	5·9	—	4·8	—	4·7	—	5·6	—	4·3	—	5·1	—	5·1	—	4·7	—	5·9	—	6·3	—	5·1	—	5·4	—	—	—	5·3
	1874	—	10·0	—	4·5	—	3·4	—	3·9	—	3·9	—	5·3	—	4·2	—	5·5	—	5·0	—	4·5	—	6·8	—	4·2	—	5·2	—	—	—	4·7
	1875	—	8·7	—	5·5	—	4·2	—	4·9	—	6·4	—	6·0	—	5·4	—	6·5	—	7·6	—	9·8	—	7·0	—	6·5	—	7·5	—	—	—	6·4
	Means for 10 years, 1866-75	—	8·6	—	6·1	—	5·5	—	5·0	—	5·8	—	5·7	—	5·6	—	7·2	—	6·9	—	7·4	—	7·5	—	6·7	—	7·1	—	—	—	6·4
	1876	—	8·4	—	6·1	—	6·2	—	4·9	—	5·5	—	4·9	—	5·5	—	6·4	—	7·0	—	5·5	—	5·6	—	5·0	—	5·9	—	—	—	5·7
	1877	—	10·1	—	8·8	—	6·7	—	5·6	—	6·8	—	6·2	—	6·8	—	9·5	—	8·4	—	11·2	—	8·5	—	10·9	—	9·7	—	—	—	8·3
	1878	38	3·7	38	6·2	44	7·6	54	8·2	56	9·2	51	8·4	48	7·9	42	8·7	48	8·3	58	11·6	49	9·1	62	13·9	52	10·3	61	10·6	51	9·1
	1879	46	4·5	56	8·3	57	8·3	58	10·1	64	10·0	58	10·3	61	9·4	51	9·9	55	8·4	61	11·3	58	10·0	63	11·6	57	10·2	64	8·9	59	9·8
	1880	46	4·9	43	4·9	44	6·6	50	7·2	48	7·2	43	5·5	45	6·1	46	8·0	40	6·7	38	5·4	53	8·5	46	7·8	45	7·3	49	4·6	45	6·7
	1881	49	7·0	45	5·6	41	4·5	35	4·3	37	4·3	33	4·2	38	4·6	49	9·3	44	8·6	42	6·1	55	8·5	48	8·3	47	8·2	41	4·6	43	6·4
	1882	51	7·4	51	7·4	47	9·2	48	8·0	49	9·9	47	7·9	48	8·5	51	10·5	51	10·6	55	10·2	60	9·4	56	10·3	55	10·2	49	6·6	52	9·3
	1883	48	5·7	40	3·8	39	6·0	36	6·7	39	7·2	36	5·1	38	5·8	45	7·8	38	5·9	42	6·1	52	6·2	44	7·6	44	6·7	42	5·9	41	6·2
	1884	48	6·4	39	3·6	39	3·2	33	3·8	32	4·2	31	4·7	35	3·9	40	5·4	32	3·8	32	4·9	42	5·8	38	4·6	37	4·9	42	4·9	37	4·4
	1885	61	6·8	46	5·5	48	6·1	43	6·5	48	6·8	43	6·0	46	6·2	48	7·3	45	6·0	50	8·7	50	6·1	46	7·8	48	7·2	50	6·0	47	6·7
	Means for 10 years, 1876-85	—	6·5	—	6·0	—	6·5	—	6·4	—	7·1	—	6·3	—	6·5	—	8·3	—	7·4	—	8·1	—	7·8	—	8·8	—	8·1	—	—	—	7·3
	1886	59	6·7	46	6·4	46	6·1	43	5·2	50	9·4	45	6·4	46	6·7	48	8·8	49	9·4	46	7·3	50	7·9	50	8·2	49	8·3	50	6·2	48	7·5
	1887	45	6·2	32	3·7	33	3·0	35	3·6	31	4·0	31	3·8	32	3·6	34	5·8	27	3·8	29	3·5	29	4·5	26	3·3	29	4·2	35	3·8	31	3·9
	1888	56	8·5	44	7·1	43	5·1	43	5·1	41	6·0	42	6·2	43	5·9	49	11·4	43	6·4	46	7·5	50	9·8	49	10·1	47	9·0	50	6·6	45	7·5
	1889	50	4·9	42	5·8	39	5·0	43	7·3	41	8·1	41	5·7	41	6·4	44	7·7	40	6·8	40	5·9	45	7·2	46	7·6	43	7·0	39	5·3	42	6·7
	Means for 24 years, 1866-89	—	7·4	—	6·0	—	5·8	—	5·7	—	6·5	—	5·9	—	6·0	—	7·9	—	7·1	—	7·5	—	7·6	—	7·7	—	7·6	—	—	—	6·8
MEAN TEMPERATURE (in Degrees Fahrenheit).	1866		48°2		48°1		48°0		52°2		51°7		52°9		50°6		50°9		50°6		53°0		51°9		51°4		51°6		°		51°1
	1867		47·2		49·9		48·5		52·7		52·2		52·8		51·2		51·1		51·6		53·6		53·1		52·9		52·5		—		51·9
	1868		49·7		52·3		52·1		55·1		55·7		54·8		54·0		52·3		53·5		55·0		52·8		54·6		53·6		—		53·8
	1869		47·7		49·4		49·2		50·9		51·6		51·7		50·6		50·1		50·3		53·5		51·3		52·6		51·6		—		51·1
	1870		49·5		52·5		51·4		52·8		54·4		53·5		52·9		51·9		52·8		54·3		53·2		53·5		53·1		—		53·0
	1871		47·2		48·4		47·9		49·5		51·7		51·2		49·7		50·8		50·7		53·7		52·4		53·9		52·3		—		51·0
	1872		48·2		49·7		49·7		52·0		51·3		51·9		50·9		50·3		51·0		51·9		50·5		51·6		51·1		—		51·0
	1873		47·9		49·8		49·1		49·8		51·6		51·7		50·4		51·7		51·3		52·5		51·9		53·2		52·1		—		51·3
	1874		48·4		49·6		49·9		51·3		52·4		52·7		51·2		51·1		51·4		54·0		51·5		54·3		52·5		—		51·9
	1875		49·3		51·4		51·2		52·4		52·8		52·9		52·1		51·7		52·0		53·1		51·9		53·3		52·4		—		52·3
	Means for 10 years, 1866-75		48·3		50·1		49·7		51·9		52·5		52·6		51·4		51·2		51·5		53·5		52·1		53·1		52·3		—		51·8
	1876		48·2		49·7		49·8		51·1		51·3		51·3		50·6		50·3		50·5		52·1		49·8		52·2		51·0		—		50·8
	1877		46·6		47·5		48·4		50·8		51·1		51·8		49·9		49·1		49·5		52·3		49·3		52·2		50·5		—		50·2
	1878		48·8		50·6		51·7		53·8		54·3		54·8		53·0		52·5		53·5		53·5		52·6		53·7		53·2		54·9		53·1
	1879		45·0		46·8		47·5		48·8		49·0		49·8		48·4		48·4		48·6		50·0		48·4		50·0		49·1		50·7		48·8
	1880		47·6		49·9		49·5		51·1		50·9		52·0		50·7		50·5		50·5		52·3		50·4		52·1		51·2		52·2		51·0
	1881		46·8		50·1		50·6		52·6		52·9		53·5		51·9		50·8		51·8		52·5		51·8		52·8		51·9		53·4		51·9
	1882		47·5		49·4		50·4		52·4		52·2		53·8		51·6		50·7		51·8		52·4		51·2		52·2		51·7		53·9		51·7
	1883		47·3		50·1		50·2		52·1		52·2		52·9		51·5		50·0		51·0		51·7		50·5		51·5		50·9		52·6		51·2
	1884		46·8		49·4		50·0		51·2		51·4		52·4		50·9		50·1		50·6		51·5		50·6		51·8		50·9		52·6		50·9
	1885		45·8		48·6		49·0		50·5		50·2		51·8		50·0		48·3		49·0		50·0		48·7		49·6		49·1		51·1		49·6
	Means for 10 years, 1876-85		47·0		49·2		49·7		51·4		51·6		52·4		50·9		50·1		50·7		51·8		50·3		51·8		50·9		—		50·9
	1886		45·6		47·8		47·9		50·5		50·5		52·0		49·7		48·1		49·4		51·2		48·9		50·8		49·7		52·1		49·7
	1887		48·4		50·5		50·3		51·4		52·0		52·4		51·3		51·0		51·2		52·6		52·2		53·3		52·1		53·2		51·7
	1888		46·5		47·6		48·4		50·5		50·5		51·1		49·3		49·4		49·9		50·8		50·0		51·8		50·4		51·9		50·0
	1889		49·7		50·9		51·3		53·1		53·4		54·7		52·7		51·9		52·6		53·0		51·7		52·4		52·3		54·0		52·5
	Means for 24 years, 1866-89		47·7		49·6		49·7		51·6		52·0		52·5		51·1		50·5		51·0		52·5		51·1		52·4		51·5		—		51·3

TABLE Ia.—SHOWING THE DATES OF THE DRIEST AND WETTEST, AND OF THE COLDEST AND WARMEST CORRESPONDING QUARTERS FOR THE TWENTY-FOUR YEARS, 1866 TO 1889.

		Wheat Districts.	Grazing, &c. Districts.	Generally.
Rainfall	Driest	Ins. 3·1 in 1870	Ins. 4·2 in 1887	Ins. 3·9 in 1887
	Wettest	9·4 in 1879	10·3 in 1872 and 1878 10·2 in 1879 and 1882	9·8 in 1879
Temperature	Coldest	48°4 in 1879	49°1 in 1879 and 1885	48°8 in 1879
	Warmest	54·0 in 1868	53·6 in 1868	53·8 in 1868

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TABLE II.—SHOWING THE RAINFALL, ACCUMULATED TEMPERATURE, AND BRIGHT SUNSHINE FOR EACH MONTH, AND THE PROGRESSIVE VALUES FROM THE COMMENCEMENT OF THE YEAR, FOR THE SECOND QUARTER, 1889.

YEAR AND MONTHS.	0. Scotland, N.		Principal Wheat-producing Districts.												Principal Grazing, &c. Districts.												Channel Islands.		Means for the British Islands generally.	
			1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat producing Districts.		6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.		Means for the &c. Grazing, Districts.					
	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.
RAINFALL.—NUMBERS OF DAYS WITH RAIN.																														
April - -	22	94	20	72	19	65	20	67	18	61	18	65	19	67	15	73	17	68	15	63	17	83	18	73	16	72	15	73	18	71
May - -	13	107	10	82	11	76	15	82	14	75	14	79	13	80	17	90	14	82	14	77	16	99	15	88	15	87	13	86	14	85
June - -	15	122	12	94	9	85	8	90	9	84	9	88	9	89	12	102	9	91	11	88	12	111	13	101	11	98	11	97	10	95
RAINFALL.—AMOUNTS IN INCHES.																														
April - -	2·24	16·06	2·70	7·52	2·01	6·83	1·87	5·81	3·44	9·08	2·18	7·31	2·44	7·31	2·75	13·30	2·59	8·57	2·17	11·26	2·85	11·45	2·41	11·01	2·55	11·11	1·46	8·12	2·50	9·22
May - -	1·24	17·30	1·76	9·28	2·28	9·11	3·31	9·12	3·29	12·37	2·53	9·84	2·63	9·94	3·12	16·42	2·39	10·96	2·39	13·65	2·99	14·44	3·36	14·37	2·85	13·96	1·55	9·67	2·74	11·96
June - -	1·37	18·67	1·38	10·66	0·71	9·82	2·15	11·27	1·40	13·77	1·03	10·87	1·33	11·27	1·83	18·25	1·77	12·73	1·30	14·95	1·33	15·77	1·80	16·17	1·61	15·57	2·28	11·95	1·47	13·43
ACCUMULATED HEAT.—DAY DEGREES ABOVE 42° F.																														
April - -	66	155	86	226	85	207	119	248	123	274	140	289	111	250	83	243	96	217	133	335	108	320	138	434	113	311	163	451	112	281
May - -	259	414	271	497	262	469	341	589	349	623	380	669	321	571	315	558	327	544	306	641	287	607	294	728	306	617	325	776	314	595
June - -	420	834	493	990	521	990	569	1158	578	1201	631	1300	538	1129	509	1067	544	1088	561	1202	488	1095	515	1243	523	1140	577	1353	541	1136
ACCUMULATED HEAT.—DAY DEGREES BELOW 42° F.																														
April - -	71	514	72	548	49	489	62	619	59	564	21	448	53	534	49	375	46	382	27	321	28	297	26	225	35	320	0	77	44	428
May - -	0	514	0	548	0	489	0	619	0	564	0	448	0	534	0	375	0	382	0	321	0	297	0	225	0	320	0	77	0	428
June - -	0	514	0	548	0	489	0	619	0	564	0	448	0	534	0	375	0	382	0	321	0	297	0	225	0	320	0	77	0	428
BRIGHT SUNSHINE.—NUMBERS OF HOURS.																														
April - -	105	255	80	287	78	287	89	286	85	277	97	284	86	284	106	318	98	297	140	382	93	274	121	367	112	328	145	442	99	306
May - -	120	375	163	450	123	410	145	431	110	387	125	409	133	417	148	466	147	444	151	533	114	388	134	501	139	467	174	616	136	442
June - -	185	560	268	718	254	664	252	683	244	631	256	665	255	672	277	743	271	715	278	811	232	620	263	764	264	731	257	873	260	702
BRIGHT SUNSHINE.—PERCENTAGES OF POSSIBLE DURATION.																														
April - -	26	18	20	22	20	21	22	22	22	21	25	21	22	21	27	23	25	22	37	28	24	20	31	27	29	24	38	33	26	23
May - -	27	22	36	24	28	23	34	24	25	22	30	23	31	23	34	26	34	24	36	30	26	21	31	28	32	26	41	35	32	25
June - -	30	23	44	29	43	27	44	28	42	25	45	27	44	27	47	30	46	29	49	33	39	26	46	32	45	30	37	36	45	29

1889.

EXPLANATION OF TABLES.

TABLES I. and IA. are merely in continuation of the Tables given in the Quarterly Summaries of the Weekly Weather Reports, 1884-88. The whole of the values for 1878-89, however, have been corrected by information received since they were first published.

TABLE II. In this Table the monthly values for *April* are those for the fourteenth to seventeenth weeks in the year; those for *May* are for the eighteenth to the twenty-first weeks; those for *June* are for the twenty-second to the twenty-sixth weeks of the year.

The figures given in the columns headed "From Jan. 1" are the values for the whole period elapsed since the beginning of the first week of the year.

In the "Means for the Wheat Districts" the values for District 0, and in the "Means for the "Grazing, &c. Districts" the values for the "Channel Islands," are not included.

The Means for the British Islands generally are those for the Wheat Districts and Grazing Districts combined.

(OFFICIAL COPY.)

QUARTERLY SUMMARY OF THE WEEKLY WEATHER REPORT, 1889.

VOL. VI. APPENDIX I.] *New Series.*

THIRD QUARTER—JULY TO SEPTEMBER.

[*Price 4d.*

TABLE I.—SUMMARY OF RAINFALL AND MEAN TEMPERATURE, FOR THE THIRD QUARTER OF THE TWENTY-FOUR YEARS, 1866 TO 1889.

	YEARS.	0. Scotland, N.		Principal Wheat-producing Districts.										Principal Grazing, &c. Districts.										Channel Islands.		Means for the British Islands generally.	
				1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat-producing Districts.		6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.		Means for the Grazing, &c. Districts.					
		Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.
RAINFALL (in Inches).	1866	—	11·8	—	10·6	—	9·3	—	7·9	—	11·7	—	9·7	—	9·8	—	15·1	—	16·1	—	15·2	—	12·0	—	8·9	—	13·5	—	—	—	—	—	11·7
	1867	—	10·0	—	10·1	—	7·1	—	7·1	—	7·4	—	8·6	—	8·1	—	12·9	—	10·4	—	8·7	—	11·8	—	8·8	—	10·5	—	—	—	—	—	9·3
	1868	—	9·7	—	10·4	—	6·0	—	4·2	—	7·1	—	7·2	—	7·0	—	9·1	—	6·7	—	9·5	—	8·1	—	11·0	—	8·9	—	—	—	—	—	8·0
	1869	—	12·8	—	7·0	—	5·8	—	5·6	—	6·4	—	6·0	—	6·2	—	10·4	—	11·5	—	9·9	—	9·4	—	8·5	—	9·9	—	—	—	—	—	8·1
	1870	—	8·6	—	5·8	—	3·5	—	5·8	—	4·5	—	4·8	—	4·9	—	6·8	—	5·0	—	7·0	—	7·6	—	5·7	—	6·4	—	—	—	—	—	5·7
	1871	—	13·0	—	8·7	—	9·7	—	7·5	—	10·8	—	10·3	—	9·4	—	9·8	—	11·8	—	14·2	—	11·1	—	10·5	—	11·5	—	—	—	—	—	10·5
	1872	—	12·1	—	12·5	—	10·4	—	9·8	—	9·4	—	6·6	—	9·7	—	16·1	—	15·8	—	13·1	—	14·7	—	11·2	—	14·2	—	—	—	—	—	12·0
	1873	—	13·7	—	11·8	—	7·2	—	6·4	—	6·8	—	7·3	—	7·9	—	15·7	—	11·8	—	14·0	—	14·2	—	11·8	—	13·5	—	—	—	—	—	10·7
	1874	—	15·5	—	11·6	—	5·8	—	5·1	—	7·1	—	6·3	—	7·2	—	13·4	—	12·6	—	13·8	—	11·8	—	10·1	—	12·3	—	—	—	—	—	9·8
	1875	—	11·2	—	8·9	—	9·1	—	8·6	—	11·5	—	9·4	—	9·5	—	11·2	—	12·7	—	15·3	—	9·2	—	10·6	—	11·8	—	—	—	—	—	10·7
	Means for 10 years, 1866–75	—	11·8	—	9·7	—	7·4	—	6·8	—	8·3	—	7·6	—	8·0	—	12·1	—	11·4	—	12·1	—	11·0	—	9·7	—	11·3	—	—	—	9·7
	1876	—	8·9	—	7·4	—	8·0	—	8·1	—	9·0	—	7·9	—	8·1	—	10·3	—	11·2	—	13·8	—	10·0	—	9·6	—	11·0	—	—	—	9·6
	1877	—	10·8	—	11·3	—	10·1	—	8·1	—	10·4	—	7·6	—	9·5	—	12·6	—	15·4	—	14·5	—	12·0	—	10·4	—	13·0	—	—	—	11·3
	1878	51	8·0	47	8·0	46	8·4	48	6·9	43	9·1	40	7·5	44	8·0	47	10·5	48	10·8	44	9·2	55	8·1	51	10·5	48	9·8	52	8·5	46	8·9
	1879	59	9·8	55	9·9	53	9·0	61	12·1	54	10·8	56	11·2	55	10·6	64	15·8	62	13·9	61	12·9	68	15·5	64	12·4	64	14·1	63	10·3	60	12·4
	1880	40	7·5	46	7·7	45	10·5	46	10·0	44	11·2	43	9·4	46	9·8	46	9·4	46	10·0	47	7·7	54	9·8	49	10·8	48	9·5	55	8·0	47	9·7
	1881	49	6·5	50	9·1	51	10·3	51	8·5	47	8·3	47	8·2	49	8·9	55	10·4	50	11·0	49	9·5	63	8·6	55	10·3	54	9·9	51	7·8	52	9·4
	1882	60	8·2	57	8·0	56	6·9	48	7·0	55	8·1	49	7·2	53	7·4	57	12·3	55	11·5	57	13·2	65	11·5	59	11·1	59	11·9	59	8·1	56	9·7
	1883	59	8·5	57	10·1	51	8·3	52	8·1	50	8·9	49	6·7	52	8·4	54	12·2	51	9·8	58	10·1	61	11·4	57	12·8	56	11·3	62	9·5	54	9·9
	1884	53	7·8	48	6·3	35	5·3	38	7·4	40	6·2	44	5·9	41	6·2	55	12·3	48	9·0	52	8·6	59	10·2	48	7·1	52	9·4	52	7·1	47	7·8
	1885	59	8·1	45	6·0	36	5·7	36	6·2	35	5·9	33	5·1	37	5·8	46	11·6	43	7·8	42	8·8	51	9·9	46	9·9	46	9·6	45	5·7	42	7·7
	Means for 10 years, 1876–85	—	8·4	—	8·4	—	8·3	—	8·2	—	8·8	—	7·7	—	8·3	—	11·7	—	11·2	—	10·8	—	10·7	—	10·5	—	10·9	—	—	—	9·6
	1886	59	8·7	43	5·0	41	6·8	38	6·5	39	6·4	35	5·8	39	6·1	48	11·4	42	10·3	40	9·3	54	9·3	53	10·9	47	10·2	48	7·2	43	8·2
	1887	63	10·3	53	7·6	44	6·1	42	5·4	35	5·2	35	5·8	42	6·0	49	10·8	43	7·1	37	7·3	55	10·5	46	7·9	46	8·7	40	6·2	44	7·4
	1888	55	9·3	52	7·1	49	9·2	53	8·4	48	7·9	46	7·9	50	8·1	53	10·6	50	10·5	53	11·0	54	10·3	44	9·3	51	10·3	51	8·6	51	9·2
	1889	58	11·0	51	8·8	48	6·7	48	9·1	44	7·8	41	6·6	—	7·8	51	10·8	48	10·2	50	9·1	60	11·9	50	9·8	—	10·4	47	6·0	—	9·1
	Means for 24 years, 1866–89	—	10·1	—	8·7	—	7·8	—	7·5	—	8·2	—	7·5	—	7·9	—	11·7	—	10·9	—	11·0	—	10·8	—	10·0	—	10·9	—	—	—	9·4
MEAN TEMPERATURE (in Degrees Fahrenheit).	1866		53°2		55°4		55°4		57°6		56°8		58°1		56°7		56°2		56°8		58°4		56°0		57°2		56°9		°		56°8
	1867		53°7		56°0		55°9		58°8		58°5		59°2		57°7		57°2		58°2		60°0		58°5		59°4		58°7		—		58°2
	1868		55°0		58°5		58°8		62°5		62°4		62°4		60°9		59°5		61°2		63°6		59°1		60°8		60°8		—		60°9
	1869		54°4		57°4		57°6		60°2		60°5		60°3		59°2		58°2		59°1		61°4		59°5		59°8		59°6		—		59°4
	1870		55°6		58°1		57°2		59°6		60°5		60°3		59°1		58°5		59°5		61°7		59°6		60°3		59°9		—		59°5
	1871		55°1		57°4		57°5		59°9		59°5		60°1		58°9		57°3		58°3		60°6		57°2		58°0		58°3		—		58°6
	1872		54°0		55°9		57°1		59°7		60°1		60°3		58°6		57°7		59°1		60°7		57°9		59°3		58°9		—		58°8
	1873		54°1		56°4		57°3		59°1		58°7		59°4		58°2		57°4		57°8		59°5		56°6		57°9		57°8		—		58°0
	1874		54°4		56°7		57°9		60°2		60°3		60°2		59°1		57°8		58°8		60°6		56°9		59°0		58°6		—		58°9
	1875		54°8		57°0		57°8		59°7		59°6		60°2		58°9		58°4		58°7		60°6		57°5		60°0		59°0		—		59°0
	Means for 10 years, 1866–75		54°4		56°9		57°3		59°7		59°7		60°1		58°7		57°8		58°8		60°7		57°9		59°2		58°9		—		58°8
	1876		54°3		56°3		57°7		60°4		60°7		61°1		59°2		57°6		58°8		61°0		56°6		59°4		58°7		—		59°0
	1877		52°7		55°0		55°5		57°9		57°7		58°2		56°9		55°3		56°0		58°3		55°1		57°3		56°4		—		56°7
	1878		55°2		58°5		59°1		60°4		60°2		61°6		60°0		59°2		59°5		61°3		58°8		60°7		59°9		62°1		60°0
	1879		53°4		54°2		56°2		58°1		57°8		58°7		57°0		55°2		56°2		57°5		54°8		57°5		56°2		58°5		56°6
	1880		55°9		57°8		59°5		61°1		60°1		62°1		60°1		58°6		59°8		61°3		58°8		60°1		59°7		61°5		59°9
	1881		52°1		56°8		56°8		58°6		57°7		59°4		57°9		54°8		56°4		57°5		55°8		56°4		56°2		59°8		57°1
	1882		54°2		56°6		57°7		58°2		57°1		58°8		57°7		56°0		56°8		57°4		55°9		56°2		56°5		58°9		57°1
	1883		52°9		55°8		56°9		58°5		57°7		59°5		57°7		55°9		57°2		57°5		55°8		56°9		56°7		59°1		57°2
	1884		54°5		57°5		59°1		61°8		60°7		62°4		60°3		58°2		59°6		60°5		57°9		59°0		59°0		61°7		59°7
	1885		51°7		55°0		56°2		58°0		57°7		59°6		57°3		54°8		56°2		57°7		55°7		57°3		56°3		59°6		56°8
	Means for 10 years, 1876–85		53°6		56°4		57°5		59°3		58°7		60°1		58°4		56°6		57°7		59°0		56°5		58°1		57°6		—		58°0
	1886		52°4		56°1		58°1		60°2		59°7		61°3		59°1		55°8		57°7		59°4		56°5		58°2		57°5		61°0		58°3
	1887		52°9		55°8		57°1		59°1		58°2		59°7		58°0		55°6		57°5		58°7		56°5		58°4		57°3		61°2		57°7
	1888		51°7		53°2		54°4		57°1		55°8		58°0		55°7		54°2		55°4		56°7		55°0		56°2		55°5		58°9		55°6
	1889		53°2		54°7		56°4		58°1		57°5		59°4		57°2		55°5		56°9		58°0		56°1		57°5		56°8		60°3		57°0
	Means for 24 years, 1866–89		53°8		56°3		57°2		59°4		59°0		60°0		58°4		56°9		58°0		59°6		57°0		58°5		58°0		—		58°2

TABLE Ia.—SHOWING THE DATES OF THE DRIEST AND WETTEST, AND OF THE COLDEST AND WARMEST CORRESPONDING QUARTERS FOR THE TWENTY-FOUR YEARS, 1866 TO 1889.

		Wheat Districts.	Grazing, &c. Districts.	Generally.
Rainfall	Driest	Ins. 4·9 in 1870	Ins. 6·4 in 1870	Ins. 5·7 in 1870
	Wettest	10·6 in 1879	14·2 in 1872	12·4 in 1879
Temperature	Coldest	55°7 in 1888	55°5 in 1888	55°6 in 1888
	Warmest	60°9 in 1868	60°8 in 1868	60°9 in 1868

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TABLE II.—SHOWING THE RAINFALL, ACCUMULATED TEMPERATURE, AND BRIGHT SUNSHINE FOR EACH MONTH, AND THE PROGRESSIVE VALUES FROM THE COMMENCEMENT OF THE YEAR, FOR THE THIRD QUARTER, 1889.

YEAR AND MONTHS.	0. Scotland, N.		Principal Wheat-producing Districts.										Means for Wheat producing Districts.		Principal Grazing, &c. Districts.										Means for the &c. Grazing, Districts.		Channel Islands.		Means for the British Islands generally.	
			1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.				6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.							
	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.
RAINFALL.—NUMBERS OF DAYS WITH RAIN.																														
July - -	16	138	15	109	15	100	17	107	16	100	17	105	16	105	13	115	14	105	16	104	16	127	14	115	15	113	16	113	16	111
August -	23	161	21	130	20	120	19	126	17	117	17	122	19	124	20	135	20	125	20	124	23	150	20	135	21	134	17	130	20	131
September -	19	180	15	145	13	133	12	138	11	128	7	129	12	136	18	153	14	139	14	138	21	171	16	151	17	151	14	144	15	146
RAINFALL.—AMOUNTS IN INCHES.																														
July - -	1·81	20·48	2·76	13·42	2·46	12·28	3·23	14·50	2·82	16·59	2·79	13·66	2·81	14·08	2·77	21·02	2·47	15·20	3·41	18·36	2·70	18·47	2·19	18·36	2·71	18·28	2·69	14·64	2·76	16·19
August -	5·10	25·58	4·67	18·09	3·89	16·17	2·92	17·42	2·98	19·57	2·44	16·10	3·38	17·46	4·67	25·69	4·79	19·99	3·66	22·02	5·85	24·32	5·91	24·27	4·98	23·26	2·26	16·90	4·18	20·37
September -	4·12	29·70	1·33	19·42	1·32	17·49	2·90	20·32	1·96	21·53	1·41	17·51	1·78	19·24	3·38	29·07	2·89	22·28	1·98	24·00	3·37	27·69	1·70	25·97	2·66	25·92	1·04	17·94	2·22	22·59
ACCUMULATED HEAT.—DAY DEGREES ABOVE 42° F.																														
July - -	311	1145	363	1353	416	1406	472	1630	450	1648	512	1812	443	1572	390	1457	425	1513	463	1665	392	1487	432	1675	420	1560	517	1870	432	1568
August -	348	1493	395	1748	444	1850	483	2113	453	2101	501	2313	455	2027	406	1863	448	1961	450	2115	402	1889	436	2111	428	1988	519	2389	442	2010
September -	331	1824	374	2122	422	2272	482	2595	473	2574	530	2843	456	2483	400	2263	456	2417	509	2624	461	2350	507	2618	467	2455	603	2992	462	2472
ACCUMULATED HEAT.—DAY DEGREES BELOW 42° F.																														
July - -	0	514	0	548	0	489	0	619	0	564	0	448	0	534	0	375	0	382	0	321	0	297	0	225	0	320	0	77	0	428
August -	0	514	0	548	0	489	0	619	0	564	0	448	0	534	0	375	0	382	0	321	0	297	0	225	0	320	0	77	0	428
September -	7	521	8	556	4	493	8	627	9	573	0	448	6	540	1	376	0	382	0	321	0	297	0	225	0	320	0	77	3	431
BRIGHT SUNSHINE.—NUMBERS OF HOURS.																														
July - -	116	676	133	851	122	786	136	819	149	780	136	801	135	807	155	898	155	870	163	974	147	767	175	939	159	890	197	1070	147	849
August -	73	749	106	957	106	892	155	974	136	916	159	960	132	939	155	1013	106	976	159	1133	90	857	133	1072	121	1011	191	1261	127	976
September -	91	840	128	1085	126	1018	166	1140	150	1066	181	1141	150	1089	135	1148	137	1113	169	1302	103	960	118	1190	132	1143	243	1504	141	1117
BRIGHT SUNSHINE.—PERCENTAGES OF POSSIBLE DURATION.																														
July - -	25	25	28	31	26	29	31	30	33	28	31	29	30	29	34	33	34	32	37	36	33	28	39	34	35	33	45	39	33	31
August -	18	24	25	30	26	28	37	31	33	29	39	30	32	30	28	32	26	31	39	36	22	28	32	34	29	32	47	40	31	31
September -	20	23	29	30	28	28	38	32	34	30	40	32	34	30	31	32	31	31	39	36	23	27	27	33	30	32	55	42	32	31

1889.

EXPLANATION OF TABLES.

TABLES I. and IA. are merely in continuation of the Tables given in the Quarterly Summaries of the Weekly Weather Reports, 1884-88. The whole of the values for 1878-89, however, have been corrected by information received since they were first published.

TABLE II. In this Table the monthly values for *July* are those for the twenty-seventh to thirtieth weeks in the year; those for *August* are for the thirty-first to the thirty-fourth weeks; those for *September* are for the thirty-fifth to the thirty-ninth weeks.

The figures given in the columns headed "From Jan. 1" are the values for the whole period elapsed since the beginning of the first week of the year.

In the "Means for the Wheat Districts" the values for District 0, and in the "Means for the "Grazing, &c. Districts" the values for the "Channel Islands," are not included.

The Means for the British Islands generally are those for the Wheat Districts and Grazing Districts combined.

(OFFICIAL COPY.)

QUARTERLY SUMMARY OF THE WEEKLY WEATHER REPORT, 1889.

VOL. VI. APPENDIX I.] *New Series.* FOURTH QUARTER—OCTOBER TO DECEMBER. [*Price 4d.*

TABLE I.—SUMMARY OF RAINFALL AND MEAN TEMPERATURE, FOR THE FOURTH QUARTER OF THE TWENTY-FOUR YEARS, 1866 TO 1889.

YEARS.	0. Scotland, N.		Principal Wheat-producing Districts.										Principal Grazing, &c. Districts.										Channel Islands.		Means for the British Islands generally.	
			1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat-producing Districts.		6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.		Means for the Grazing, &c. Districts.					
	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.
RAINFALL (in Inches). 1866	—	20·6	—	9·0	—	6·0	—	5·9	—	6·7	—	6·3	—	6·8	—	14·4	—	15·3	—	12·4	—	11·9	—	9·2	—	12·6	—	—	—	9·7
1867	—	16·8	—	5·7	—	4·8	—	5·7	—	5·5	—	5·8	—	5·5	—	10·4	—	10·3	—	12·1	—	9·6	—	7·5	—	10·0	—	—	—	7·8
1868	—	19·0	—	10·3	—	9·5	—	7·9	—	9·7	—	11·4	—	9·8	—	15·1	—	18·5	—	18·3	—	14·0	—	14·3	—	16·0	—	—	—	12·9
1869	—	19·8	—	9·8	—	7·9	—	9·1	—	9·7	—	8·5	—	8·6	—	14·0	—	13·6	—	14·3	—	13·1	—	9·5	—	12·9	—	—	—	10·8
1870	—	16·0	—	9·3	—	10·5	—	8·4	—	8·6	—	9·5	—	9·3	—	10·6	—	16·0	—	15·9	—	14·6	—	12·2	—	13·9	—	—	—	11·6
1871	—	15·1	—	7·3	—	5·4	—	4·3	—	4·2	—	4·6	—	5·2	—	10·7	—	10·7	—	12·4	—	7·6	—	9·4	—	10·2	—	—	—	7·7
1872	—	18·0	—	15·0	—	11·6	—	10·6	—	12·0	—	16·5	—	13·1	—	16·3	—	17·4	—	25·1	—	16·8	—	17·6	—	18·6	—	—	—	15·9
1873	—	21·2	—	9·6	—	3·5	—	4·6	—	4·6	—	6·5	—	5·8	—	11·7	—	10·6	—	9·4	—	7·9	—	7·7	—	9·5	—	—	—	7·7
1874	—	17·8	—	9·2	—	8·0	—	7·0	—	7·4	—	10·6	—	8·4	—	14·4	—	15·0	—	16·0	—	13·0	—	12·7	—	14·2	—	—	—	11·3
1875	—	13·7	—	11·1	—	10·1	—	9·6	—	11·4	—	11·2	—	10·7	—	12·5	—	12·7	—	18·5	—	10·1	—	13·1	—	13·4	—	—	—	12·1
Means for 10 years, 1866-75	—	17·8	—	9·6	—	7·7	—	7·3	—	7·8	—	9·1	—	8·3	—	13·0	—	14·0	—	15·4	—	11·9	—	11·3	—	13·1	—	—	—	10·7
1876	—	13·7	—	13·2	—	10·5	—	7·5	—	11·7	—	13·4	—	11·3	—	16·0	—	14·1	—	19·1	—	14·4	—	17·6	—	16·2	—	—	—	13·8
1877	—	23·1	—	11·3	—	6·4	—	6·4	—	7·4	—	10·6	—	8·4	—	18·1	—	17·8	—	17·2	—	14·3	—	14·0	—	16·3	—	—	—	12·4
1878	72	11·1	53	8·1	60	10·4	57	9·6	51	7·8	48	8·3	54	8·8	45	11·0	55	9·1	64	13·3	65	11·7	53	8·1	56	10·6	74	15·4	55	9·7
1879	58	8·6	41	4·8	38	3·6	44	3·3	33	2·8	32	2·5	38	3·4	37	6·5	35	5·2	31	4·3	42	4·9	37	4·2	36	5·0	38	4·2	37	4·2
1880	75	12·6	54	8·2	56	9·8	58	9·4	49	11·0	51	12·9	54	10·3	57	12·2	53	13·6	58	16·4	60	9·6	53	12·4	56	12·8	69	18·2	55	11·6
1881	64	11·2	58	7·2	54	7·2	60	8·5	51	8·6	52	9·5	55	8·2	56	15·8	54	11·9	59	14·2	65	12·1	62	13·4	59	13·5	65	12·6	57	10·9
1882	71	11·9	67	11·4	72	11·2	69	11·7	71	13·0	67	12·6	69	12·0	63	16·9	67	13·2	74	19·8	65	12·5	68	14·8	67	15·4	83	19·0	68	13·7
1883	75	14·8	48	5·8	53	5·8	60	7·6	52	7·4	49	7·2	52	6·8	66	18·4	57	11·3	62	11·8	71	12·2	60	11·1	63	13·0	63	10·3	58	9·9
1884	68	14·6	52	6·9	44	5·1	50	6·9	47	5·3	42	6·0	47	6·0	52	16·1	51	8·7	57	10·2	64	13·2	54	9·8	56	11·6	62	8·7	52	8·8
1885	63	11·0	45	4·6	51	7·0	55	9·2	52	8·6	50	9·0	51	7·7	52	11·8	50	9·8	59	12·7	54	8·9	59	10·1	55	10·7	53	11·3	53	9·2
Means for 10 years, 1876-85	—	13·3	—	8·2	—	7·7	—	8·0	—	8·4	—	9·2	—	8·3	—	14·3	—	11·5	—	13·9	—	11·4	—	11·6	—	12·5	—	—	—	10·4
1886	75	14·3	60	7·8	56	10·0	58	9·5	64	10·9	67	14·4	61	10·5	65	16·8	69	14·3	75	19·1	71	15·5	69	16·0	70	16·3	85	16·3	66	13·4
1887	73	13·0	55	7·8	59	7·7	56	6·3	47	5·9	50	7·8	53	7·1	51	12·4	55	8·1	55	12·0	57	10·0	47	9·7	53	10·4	64	11·9	53	8·8
1888	69	15·9	57	9·3	46	5·7	42	5·6	43	8·4	50	8·6	48	7·5	57	16·8	56	10·1	61	14·0	66	10·4	63	13·8	61	13·0	6	10·[illegible]	55	10·3
1889	65	12·3	52	6·6	49	6·6	51	6·0	47	5·3	46	8·2	49	6·5	58	13·3	58	9·4	59	11·8	61	10·8	59	11·6	58	11·4	66	12·2	54	9·0
Means for 24 years, 1866-89	—	15·3	—	8·7	—	7·7	—	7·5	—	8·0	—	9·2	—	8·2	—	13·8	—	12·4	—	14·6	—	11·6	—	11·7	—	12·8	—	—	—	10·5
MEAN TEMPERATURE (in Degrees Fahrenheit). 1866		43°6		44°2		45°1		46°1		45°7		46°8		45°6		46°0		46°2		50°3		45°4		46°9		47°0		—		46°3
1867		43·9		42·9		42·3		43·0		42·6		43·2		42·8		43·4		42·9		45·8		44·2		44·9		44·2		—		43·5
1868		42·0		42·0		43·1		44·8		44·3		45·5		43·9		43·6		44·2		48·1		44·0		45·5		45·1		—		44·5
1869		40·9		41·5		41·8		42·7		42·9		43·7		42·5		42·5		43·9		46·6		44·7		45·5		44·6		—		43·6
1870		40·3		40·0		40·3		41·6		41·3		41·9		41·0		40·5		41·6		44·4		41·5		43·2		42·2		—		41·6
1871		42·2		42·1		42·3		41·5		41·7		41·8		41·9		42·4		43·0		45·3		43·2		44·7		43·7		—		42·8
1872		42·4		42·0		43·3		44·4		44·2		45·4		43·9		43·6		44·4		47·3		42·8		44·1		44·4		—		44·2
1873		43·4		42·9		44·2		43·9		43·6		44·5		43·8		44·2		44·7		46·9		44·3		46·3		45·3		—		44·6
1874		41·4		39·9		40·8		41·8		41·7		43·0		41·4		40·5		42·3		46·0		42·8		45·7		43·5		—		42·5
1875		43·7		42·1		43·0		42·7		43·0		43·5		42·9		42·8		43·6		45·9		43·5		46·0		44·4		—		43·7
Means for 10 years, 1866-75		42·3		42·0		42·6		43·3		43·1		43·9		43·0		43·0		43·7		46·7		43·6		45·3		44·4		—		43·7
1876		44·0		43·4		45·2		46·2		44·8		47·2		45·4		44·6		46·1		49·0		45·7		48·1		46·7		—		46·1
1877		42·9		45·3		43·6		44·4		44·1		44·8		44·0		44·5		45·3		49·2		44·4		47·4		46·2		—		45·1
1878		40·5		39·7		39·8		40·8		40·7		42·3		40·7		40·9		41·5		44·5		42·1		42·8		42·4		47·4		41·6
1879		41·8		41·0		40·3		39·7		39·8		41·2		40·4		42·2		42·0		45·3		43·0		45·0		43·5		46·9		42·0
1880		39·1		40·4		42·4		43·6		42·7		45·3		42·9		42·2		43·6		47·7		42·9		44·9		44·3		4		43·6
1881		43·2		43·0		43·2		43·5		43·2		45·2		43·6		44·3		44·5		47·7		44·3		46·8		45·5		49·3		44·6
1882		41·3		40·1		43·6		43·5		42·8		45·5		42·9		42·2		44·0		46·5		42·8		44·6		44·0		49·3		43·5
1883		42·4		43·0		43·8		44·2		43·8		45·6		44·1		42·2		45·0		48·9		44·6		46·5		45·5		49·5		44·8
1884		44·4		42·6		43·8		43·6		43·3		45·3		43·7		44·3		45·0		47·9		44·1		45·1		44·7		49·3		44·2
1885		41·5		41·5		42·6		42·3		41·9		44·0		42·5		43·8		44·4		47·0		43·7		45·1		43·9		48·3		43·2
Means for 10 years, 1876-85		42·1		41·8		42·7		43·2		42·7		44·6		43·0		43·2		43·9		46·8		43·8		45·6		44·7		—		43·9
1886		42·6		42·5		43·6		43·9		43·5		45·6		43·8		44·4		44·7		46·3		44·2		45·8		45·1		49·8		44·5
1887		39·2		39·4		40·3		40·2		39·9		41·7		40·3		40·7		41·3		42·7		41·8		42·8		41·9		46·5		41·1
1888		43·2		43·4		44·1		43·9		43·8		46·1		44·3		45·1		45·3		47·1		45·5		47·0		46·0		50·6		45·2
1889		43·1		42·2		43·1		43·0		42·7		44·9		43·2		44·4		44·1		45·8		45·0		46·2		45·1		49·1		44·2
Means for 24 years, 1866-89		42·2		41·9		42·7		43·1		42·8		44·3		43·0		43·2		43·8		46·5		43·8		45·5		44·6		—		43·8

TABLE Ia.—SHOWING THE DATES OF THE DRIEST AND WETTEST, AND OF THE COLDEST AND WARMEST CORRESPONDING QUARTERS FOR THE TWENTY-FOUR YEARS, 1866 TO 1889.

		Wheat Districts.	Grazing, &c. Districts.	Generally.
Rainfall	Driest	Ins. 3·4 in 1879	Ins. 5·0 in 1879	Ins. 4·2 in 1879
	Wettest	13·1 in 1872	18·6 in 1872	15·9 in 1872
Temperature	Coldest	°40·3 in 1887	°41·9 in 1887	°41·1 in 1887
	Warmest	45·6 in 1866	47·0 in 1866	46·3 in 1866

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TABLE II.—SHOWING THE RAINFALL, ACCUMULATED TEMPERATURE, AND BRIGHT SUNSHINE FOR EACH MONTH, AND THE PROGRESSIVE VALUES FROM THE COMMENCEMENT OF THE YEAR, FOR THE FOURTH QUARTER, 1889.

YEAR AND MONTHS.	0. Scotland, N.		Principal Wheat-producing Districts.												Principal Grazing, &c. Districts.												Channel Islands.		Means for the British Islands generally.	
			1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat producing Districts.		6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.		Means for the &c. Grazing, Districts.					
	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.	For the Month.	From Jan. 1.
RAINFALL.—NUMBERS OF DAYS WITH RAIN.																														
October -	19	199	22	167	22	155	21	159	21	149	20	149	21	157	16	169	20	159	23	161	19	190	19	170	19	170	24	168	20	166
November -	19	218	13	180	11	166	10	169	11	160	9	158	11	168	18	187	18	177	15	176	18	208	17	187	17	187	19	187	14	180
December -	27	245	17	197	16	182	20	189	15	175	17	175	17	185	24	211	20	197	21	197	24	232	23	210	22	209	23	210	20	200
RAINFALL.—AMOUNTS IN INCHES.																														
October -	3·00	32·70	3·36	22·78	4·12	21·61	3·39	23·71	2·57	24·10	4·84	22·35	3·66	22·90	3·43	32·50	3·55	26·43	5·13	29·13	4·00	31·69	4·21	30·18	4·06	29·98	5·89	23·83	3·86	26·45
November -	4·07	36·77	1·49	24·27	0·77	22·38	0·94	24·65	1·16	25·26	1·57	23·92	1·19	24·09	4·30	36·80	2·38	28·81	2·74	31·87	2·48	34·17	2·57	32·75	2·39	32·87	3·24	27·07	2·01	28·49
December -	5·19	41·96	1·75	26·02	1·73	24·11	1·63	26·28	1·53	26·84	1·83	25·75	1·70	25·70	5·58	42·38	3·44	32·25	3·92	35·79	4·28	38·45	4·77	37·52	4·14	37·27	3·09	30·16	3·05	31·54
ACCUMULATED HEAT.—DAY DEGREES ABOVE 42° F.																														
October -	131	1955	134	2256	157	2429	186	2781	166	2740	222	3065	173	2656	158	2420	159	2576	195	2819	174	2524	189	2798	173	2628	294	3286	173	2645
November -	124	2079	135	2391	127	2556	135	2916	136	2876	172	3237	141	2797	145	2565	149	2725	201	3019	119	2573	179	2977	134	2792	253	3539	153	2798
December -	34	2113	25	2416	21	2577	30	2946	35	2911	40	3277	30	2827	51	2616	28	2753	61	3080	72	2745	113	3089	65	2857	138	3677	48	2846
ACCUMULATED HEAT.—DAY DEGREES BELOW 42° F.																														
October -	49	561	33	589	3	496	10	637	23	596	4	452	15	555	18	394	3	385	6	327	18	315	20	245	13	333	0	77	14	445
November -	20	581	43	632	24	520	19	656	17	613	0	452	21	576	8	402	8	393	0	327	7	322	3	248	5	338	0	77	13	458
December -	146	727	184	816	164	684	211	867	213	826	172	624	189	765	121	523	133	526	123	450	90	412	71	319	108	446	25	102	149	607
BRIGHT SUNSHINE.—NUMBERS OF HOURS.																														
October -	79	919	49	1134	38	1056	74	1214	66	1131	71	1212	60	1149	62	1210	51	1164	84	1386	79	1039	88	1278	73	1216	98	1602	67	1184
November -	18	937	56	1190	50	1106	75	1289	46	1177	41	1253	54	1203	35	1245	40	1204	36	1422	38	1077	48	1326	30	1255	57	1659	47	1231
December -	17	954	32	1222	37	1143	39	1328	43	1220	45	1298	39	1242	43	1288	39	1243	56	1478	42	1119	55	1381	47	1304	62	1721	43	1275
BRIGHT SUNSHINE.—PERCENTAGES OF POSSIBLE DURATION.																														
October -	28	23	17	30	12	27	25	32	22	29	23	32	20	30	22	31	18	30	28	36	28	26	30	33	25	31	32	42	23	31
November -	8	23	25	29	20	27	30	32	18	29	16	31	22	30	15	30	17	29	14	35	16	26	20	32	16	30	22	41	19	30
December -	7	22	14	28	15	26	15	31	16	28	17	30	15	29	17	30	15	29	20	34	17	26	21	32	18	30	21	40	17	30

1889.

EXPLANATION OF TABLES.

TABLES I. and IA. are merely in continuation of the Tables given in the Quarterly Summaries of the Weekly Weather Reports, 1884-88. The whole of the values for 1878-89, however, have been corrected by information received since they were first published.

TABLE II. In this Table the monthly values for *October* are those for the fortieth to forty-third weeks in the year; those for *November* are for the forty-fourth to the forty-seventh weeks; those for *December* are for the forty-eight to the fifty-second weeks.

The figures given in the columns headed "From Jan. 1" are the values for the whole period elapsed since the beginning of the first week of the year.

In the "Means for the Wheat Districts" the values for District 0, and in the "Means for the "Grazing, &c. Districts" the values for the "Channel Islands," are not included.

The Means for the British Islands generally are those for the Wheat Districts and Grazing Districts combined.

SUMMARY OF THE WEEKLY WEATHER REPORT, 1889.

VOL. VI. APPENDIX I.] *New Series.*

VALUES FOR THE WHOLE YEAR.

[*Price 4d.*

TABLE I.—SUMMARY OF RAINFALL AND MEAN TEMPERATURE, FOR THE WHOLE YEAR DURING THE TWENTY-FOUR YEARS, 1866 TO 1889.

	YEARS.	Principal Wheat-producing Districts.												Principal Grazing, &c. Districts.												Channel Islands.		Means for the British Islands generally.	
		0. Scotland, N.		1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat-producing Districts.		6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.		Means for the &c. Grazing, Districts.					
		Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.
RAINFALL (in inches).	1866	—	53·4	—	35·7	—	26·3	—	27·2	—	31·8	—	34·1	—	31·0	—	50·0	—	51·1	—	51·0	—	44·3	—	38·3	—	46·9	—	—	—	39·0
	1867	—	48·1	—	33·3	—	24·1	—	24·7	—	27·7	—	29·0	—	27·8	—	43·7	—	40·1	—	46·0	—	43·2	—	36·3	—	41·9	—	—	—	34·9
	1868	—	58·7	—	38·5	—	24·1	—	20·7	—	26·8	—	30·2	—	28·1	—	49·5	—	42·9	—	45·6	—	41·7	—	42·1	—	44·4	—	—	—	36·3
	1869	—	51·1	—	31·0	—	27·4	—	25·9	—	29·3	—	30·1	—	28·7	—	40·6	—	44·9	—	46·4	—	42·3	—	37·9	—	42·4	—	—	—	35·6
	1870	—	40·5	—	25·9	—	23·1	—	20·4	—	20·7	—	22·7	—	22·6	—	33·6	—	35·7	—	37·8	—	37·2	—	32·2	—	35·3	—	—	—	29·0
	1871	—	41·8	—	29·0	—	26·4	—	23·1	—	27·3	—	28·7	—	26·9	—	40·5	—	38·9	—	45·0	—	36·9	—	37·0	—	39·7	—	—	—	31·3
	1872	—	49·7	—	49·1	—	37·2	—	33·1	—	39·8	—	41·7	—	40·2	—	58·8	—	59·2	—	68·6	—	54·0	—	49·5	—	58·0	—	—	—	49·1
	1873	—	50·7	—	34·5	—	20·8	—	21·1	—	24·1	—	26·5	—	25·4	—	42·5	—	36·7	—	43·4	—	37·2	—	36·5	—	39·3	—	—	—	32·4
	1874	—	54·8	—	31·8	—	20·7	—	19·1	—	24·1	—	26·6	—	24·5	—	41·9	—	43·6	—	46·8	—	40·0	—	34·7	—	41·4	—	—	—	33·0
	1875	—	42·0	—	32·5	—	27·3	—	26·8	—	35·1	—	33·3	—	31·0	—	40·0	—	41·7	—	56·2	—	33·4	—	40·4	—	42·3	—	—	—	36·7
	Means for 10 years, 1866–75	—	49·1	—	34·1	—	25·7	—	24·2	—	28·7	—	30·3	—	28·6	—	44·1	—	43·5	—	48·7	—	41·0	—	38·5	—	43·2	—	—	—	35·9
	1876	—	44·4	—	36·2	—	31·0	—	27·2	—	34·4	—	33·7	—	32·5	—	44·8	—	44·3	—	49·3	—	40·0	—	42·2	—	44·1	—	—	—	38·3
	1877	—	55·9	—	41·2	—	30·3	—	27·7	—	32·9	—	35·1	—	33·4	—	54·4	—	57·0	—	57·1	—	48·2	—	46·7	—	52·7	—	—	—	43·1
	1878	235	32·2	178	26·6	195	31·3	211	29·2	193	30·1	181	29·2	191	29·3	187	41·1	202	35·4	207	40·2	229	37·2	218	40·2	207	38·8	243	40·6	199	34·1
	1879	217	28·3	198	29·9	203	26·0	227	31·7	199	29·7	197	32·2	203	29·9	199	40·7	195	34·1	207	39·8	228	37·1	219	39·4	209	38·2	228	35·2	206	34·1
	1880	210	32·4	184	26·3	180	30·2	192	29·0	176	33·7	175	32·4	181	30·3	198	39·9	179	36·4	190	38·4	216	35·4	198	40·9	196	37·8	223	36·8	189	34·1
	1881	222	33·8	199	29·3	197	28·2	193	27·0	177	27·7	171	28·6	187	28·2	206	45·0	190	40·1	195	39·3	234	36·9	209	40·7	206	40·4	208	33·9	197	34·3
	1882	254	37·9	223	32·0	207	30·4	197	30·9	210	36·5	197	31·4	206	32·2	233	51·5	222	43·1	235	50·4	253	41·6	240	45·9	237	46·5	239	39·5	222	39·4
	1883	247	37·9	197	26·3	196	25·9	199	28·9	190	30·8	183	26·5	193	27·7	221	50·6	197	35·4	217	38·5	247	40·0	218	45·3	230	42·0	230	34·5	207	34·9
	1884	235	40·8	191	23·1	162	19·9	163	22·0	166	22·4	165	23·3	169	22·1	215	50·9	188	33·0	203	35·9	235	41·4	207	36·9	209	39·6	225	29·9	189	30·9
	1885	246	35·0	182	21·5	180	23·2	182	27·2	185	27·4	171	27·4	180	25·3	203	42·6	191	31·3	205	39·3	212	33·3	209	39·6	204	37·2	219	31·2	192	31·3
	Means for 10 years, 1876–85	—	37·9	—	29·2	—	27·6	—	28·1	—	30·6	—	30·0	—	29·1	—	46·2	—	39·0	—	42·6	—	39·1	—	41·8	—	41·7	—	—	—	35·4
	1886	263	39·1	204	24·9	199	29·2	193	26·2	202	33·1	195	32·9	199	29·3	218	48·1	214	43·0	218	46·5	234	42·8	227	46·3	222	45·3	251	38·6	211	37·3
	1887	241	41·6	183	24·4	174	20·6	166	19·1	148	19·2	150	21·5	164	21·0	181	38·7	163	24·9	159	28·3	188	32·3	159	28·5	170	30·5	181	26·2	167	25·8
	1888	242	43·9	208	30·4	187	25·6	188	24·2	175	26·8	184	28·5	188	27·1	200	46·5	200	31·1	208	38·4	217	36·9	197	39·9	205	38·6	225	31·9	199	32·9
	1889	245	42·0	197	26·0	182	24·1	189	26·3	175	26·8	175	25·6	185	25·8	211	42·4	197	32·4	197	35·9	232	38·5	210	37·6	209	37·4	210	30·2	200	31·6
	Means for 24 years, 1866–89	—	43·2	—	30·8	—	26·4	—	25·8	—	29·1	—	29·6	—	28·3	—	44·9	—	39·8	—	44·3	—	39·7	—	39·8	—	41·7	—	—	—	35·0
MEAN TEMPERATURE (in Degrees Fahrenheit).	1866		45°8		46°6		46°9		49°2		48°7		49°9		48°3		48°3		48°6		51°3		48°3		49°0		49°1		—		48°7
	1867		45·4		46·5		45·9		48·3		47·9		48·6		47·4		47·4		47·8		50·2		48·5		49·3		48·6		—		48·0
	1868		46·9		48·6		48·8		51·0		51·1		51·2		50·1		49·4		50·3		52·8		49·5		51·3		50·7		—		50·4
	1869		45·8		47·2		47·3		48·7		49·1		49·4		48·3		48·2		48·9		51·7		49·6		50·6		49·8		—		49·1
	1870		45·8		47·0		46·5		47·9		48·6		48·5		47·7		47·4		48·2		50·4		48·5		49·7		48·8		—		48·3
	1871		46·1		46·9		46·6		47·5		48·3		48·4		47·5		47·6		48·0		50·7		48·6		50·0		49·0		—		48·3
	1872		46·4		47·1		47·9		49·6		49·6		50·3		48·9		48·6		49·5		51·5		48·4		49·9		49·6		—		49·3
	1873		46·1		46·9		47·3		47·9		48·3		48·9		47·9		48·1		48·4		50·4		48·2		49·6		48·9		—		48·4
	1874		46·5		47·0		47·5		48·4		48·9		49·5		48·3		47·9		48·6		51·4		48·5		51·1		49·5		—		48·9
	1875		46·6		47·4		47·7		48·4		48·7		49·2		48·3		48·2		48·6		50·6		48·3		51·0		49·4		—		48·9
	Means for 10 years, 1866–75		46·1		47·1		47·2		48·7		48·9		49·4		48·3		48·1		48·7		51·1		48·7		50·2		49·4		—		48·9
	1876		46·3		46·9		48·0		49·2		48·9		49·9		48·6		48·0		48·8		51·1		48·1		50·8		49·4		—		49·0
	1877		45·2		46·2		47·0		48·7		48·7		49·5		48·0		47·4		48·2		51·2		47·6		50·5		49·0		—		48·5
	1878		46·0		47·2		47·9		48·9		49·3		50·1		48·7		48·6		49·2		50·9		49·0		50·6		49·7		52·1		49·2
	1879		43·8		44·1		45·0		45·8		45·8		46·9		45·5		45·6		45·9		48·4		46·1		48·3		46·9		49·6		46·2
	1880		45·8		47·0		47·7		48·8		48·4		50·0		48·4		48·2		48·6		51·2		48·6		50·3		49·4		51·5		48·9
	1881		44·1		45·4		46·2		47·7		47·4		49·1		47·2		46·3		47·3		49·4		47·4		49·0		47·9		51·8		47·6
	1882		46·2		47·3		48·4		49·1		48·7		50·4		48·3		48·2		49·0		50·3		48·7		49·8		49·2		51·7		49·0
	1883		45·3		46·9		47·4		48·5		48·2		49·7		48·1		47·6		48·3		49·6		48·0		49·4		48·6		51·5		48·4
	1884		46·6		47·7		48·7		49·8		49·5		51·0		49·3		48·6		49·3		50·7		48·8		50·2		49·5		52·5		49·4
	1885		44·4		45·9		46·8		47·5		47·3		49·0		47·3		46·4		46·9		48·7		47·2		48·6		47·6		50·7		47·5
	Means for 10 years, 1876–85		45·4		46·5		47·3		48·4		48·2		49·6		48·0		47·5		48·2		50·2		48·0		49·8		48·7		—		48·4
	1886		44·3		45·6		46·4		47·5		47·4		49·0		47·2		46·3		47·1		48·8		47·0		48·7		47·6		51·2		47·4
	1887		45·0		46·2		46·6		47·1		47·0		48·1		47·0		46·8		47·3		48·6		48·0		49·2		48·0		50·9		47·5
	1888		44·4		45·1		46·1		47·0		46·7		48·2		46·6		46·7		47·1		48·3		47·5		48·9		47·7		50·8		47 2
	1889		46·1		46·6		47·4		47·9		48·0		49·5		47·9		48·0		48·3		49·4		48·5		49·8		48·8		51·9		48·4
	Means for 24 years, 1866–89		45·6		46·6		47·2		48·4		48·4		49·3		48·0		47·7		48·3		50·4		48·2		49·8		48·9		—		48·5

TABLE Ia.—SHOWING THE DATES OF THE DRIEST AND WETTEST, AND OF THE COLDEST AND WARMEST YEARS FOR THE TWENTY-FOUR YEARS, 1866 TO 1889.

		Wheat Districts.	Grazing, &c. Districts.	Generally.
Rainfall	Driest	Ins. 21·0 in 1887	Ins. 30·5 in 1887	Ins. 25·8 in 1887
	Wettest	40·2 in 1872	58·0 in 1872	49·1 in 1872
Temperature	Coldest	45°5 in 1879	46°9 in 1879	46°2 in 1879
	Warmest	50·1 in 1868	50·7 in 1868	50·4 in 1868

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NOTES.

1.—Rainfall.

The mean values for the Rainfall in the districts given as Table I. in the various Quarterly Summaries were obtained as follows. Those for the years 1866 to 1877 were derived from observations made at the following stations:—

Districts.		Stations.
0. SCOTLAND, N.		Loch Broom.
		Helmsdale.
		Sandwick Manse.
1. SCOTLAND, E.		Inverness.
		Aberdeen.
		Ballater.
		Logierait.
		Stirling.
		Hawick.
2. ENGLAND, N.E.		N. Shields.
		York.
		Grimsby.
		Boston.
3. ENGLAND, E.	1866 to 1875.	Fakenham.
		Beccles.
		Witham.
		Bury St. Edmunds.
	1876 &1877.	Yarmouth.
		Cambridge.
		Bury St. Edmunds.
4. MIDLAND COUNTIES		Leicester.
		Derby.
		Tenbury.
		Shiffnal.
		Cirencester.
		Banbury.
		Hitchin.
5. ENGLAND, S.		Bridport.
		Selborne.
		Maidstone.
		London (Camden Town)
6. SCOTLAND, W.		Dumfries.
		Ayr.
		Castle Toward.
7. ENGLAND, N.W., and N. WALES		Llandudno.
		Manchester.
		Skipton.
8. ENGLAND, S.W., and S. WALES		Barnstaple.
		Bodmin.
		Haverfordwest.
		Rhayader.
9. IRELAND, N.		Galway.
		Bunninadden, Co. Sligo. (Doo Castle.)
		Waringstown.
		Strabane.
10. IRELAND, S.		Cork.
		Waterford.
		Killaloe.
		Portarlington.
		Monkstown, Co. Dublin.

(The values were obtained mainly from Symons' Monthly Meteorological Magazine, supplemented by some of the values contained in the Reports of the Rainfall Committee of the British Association, 1868–1876.)

2.—Temperature.

The Temperature values for the years 1866 to 1877 have been obtained from the following stations:—

Districts.		Stations.
0. SCOTLAND, N.		Sandwick Manse.
		Stornoway.
		Dunrobin.
1. SCOTLAND, E.		Culloden.
		Aberdeen.
		Perth.
		Leith.
2. ENGLAND, N.E.		Bywell.
		N. Shields.
		Hull.
3. ENGLAND, E.		Royston.
		Holkham.
		Norwich.
		Wisbeach.
		Somerleyton.
4. MIDLAND COUNTIES		Derby.
		Nottingham.
		Cardington.
		Oxford.
5. ENGLAND, S.		Marlborough.
		Greenwich.
		Streatley.
		London (Camden Town).
		Weybridge.
		Strathfield Turgiss.
		Osborne.
		Bournemouth.
		Worthing.
6. SCOTLAND, W.		Greenock.
		Cockermouth.
		Silloth.
		Carlisle.
7. ENGLAND, N.W., and N. WALES		Stonyhurst.
		Bradford.
		Leeds.
		Eccles.
		Liverpool.
		Llandudno.
8. ENGLAND, S.W., and S. WALES		Gloucester.
		Taunton.
		Barnstaple.
		Truro.
		Helston.
9. IRELAND, N.	1866 to 1873.	Belfast.
		Milltown (Banbridge).
		Armagh.†
		Athlone.*
	1874 to 1877.	Moville.
		Milltown.
		Armagh.
		Donaghadee.
10. IRELAND, S.	1866 to 1873.	Dublin.*
		Curragh Camp.
		Buttevant.*
		Cork.
		Valencia.†
	1874 to 1877.	Kingstown.
		Parsonstown.
		Cork.
		Roche's Point.
		Valencia.

(The values were obtained mainly from the returns published quarterly by the Registrar General, by the Scottish Meteorological Society (in their Quarterly Journal), and the reports of the Army Medical Department, besides the records of the two Irish observatories, Valencia and Armagh. The returns for Cork were furnished by R. Caulfield, Esq., LL.D.)

For the years 1878 to 1889 the means are obtained from the observations published in the Weekly Weather Report.

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* Did not commence till January 1867.

† Did not commence till January 1869.

By Order,

ROBERT H. SCOTT, Secretary.

WEEKLY WEATHER REPORT, 1889.

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Second Series.

TABLE I.—SHOWING THE WEEKLY AND PROGRESSIVE NUMBERS OF RAINY DAYS IN EACH DISTRICT, DURING THE YEAR 1889.

DATE. — LIMITS OF WEEKS.	0. Scotland, N.		Principal Wheat-producing Districts.												Principal Grazing, &c. Districts.												Channel Islands.		Means for the British Islands generally.	
			1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat producing Districts.		6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.		Means for Grazing, &c. Districts.					
	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.
	Numbers of Days with Rain.																													
1889.																														
Jan. 1–7	4	4	1	1	1	1	0	0	0	0	1	1	1	1	3	3	1	1	1	1	3	3	2	2	2	2	1	1	2	2
8–14	4	8	4	5	6	7	6	6	4	4	4	5	5	6	2	5	2	3	3	4	4	7	4	6	3	5	4	5	4	6
15–21	6	14	5	10	3	10	2	8	4	8	3	8	3	9	6	11	4	7	4	8	6	13	5	11	5	10	5	10	4	10
22–28	5	19	2	12	2	12	2	10	2	10	2	10	2	11	4	15	4	11	2	10	5	18	4	15	4	14	2	12	3	13
Jan. 29–Feb. 4	7	26	6	18	5	17	6	16	6	16	6	16	6	17	6	21	6	17	6	16	7	25	6	21	6	20	7	19	6	19
Feb. 5–11	6	32	5	23	4	21	5	21	4	20	5	21	5	22	4	25	5	22	5	21	6	31	6	27	5	25	7	26	5	24
12–18	7	39	6	29	3	24	3	24	4	24	4	25	4	26	7	32	6	28	6	27	6	37	6	33	6	31	7	33	5	29
19–25	5	44	4	33	5	29	5	29	3	27	4	29	4	30	4	36	2	30	2	29	5	42	4	37	4	35	5	38	4	33
Feb. 26–Mar. 4	4	48	5	38	5	34	5	34	3	30	3	32	4	34	2	38	3	33	3	32	3	45	4	41	3	38	3	41	4	37
Mar. 5–11	5	53	4	42	3	37	3	37	4	34	4	36	4	38	5	43	4	37	5	37	5	50	3	44	5	43	6	47	4	41
12–18	6	59	4	46	2	39	1	38	1	35	1	37	2	40	5	48	4	41	3	40	5	55	3	47	4	47	2	49	3	44
19–25	7	66	4	50	4	43	5	43	4	39	6	43	5	45	6	54	5	46	5	45	6	61	4	51	5	52	6	55	5	49
Mar. 26–April 1	6	72	2	52	3	46	4	47	4	43	4	47	3	48	4	58	5	51	3	48	5	66	4	55	4	56	3	58	4	53
April 2–8	5	77	6	58	6	52	5	52	6	49	5	52	6	54	5	63	5	56	4	52	5	71	4	59	5	61	4	62	6	59
9–15	6	83	5	63	5	57	6	58	5	54	5	57	5	59	2	65	4	60	3	55	3	74	3	62	3	64	4	66	4	63
16–22	6	89	4	67	2	59	3	61	2	56	2	59	3	62	4	69	3	63	3	58	4	78	4	66	3	67	1	67	3	66
23–29	5	94	5	72	6	65	6	67	5	61	6	65	5	67	4	73	5	68	5	63	5	83	7	73	5	72	6	73	5	71
April 30–May 6	4	98	3	75	2	67	3	70	3	64	4	69	3	70	6	79	4	72	5	68	6	89	6	79	5	77	5	78	4	75
May 7–13	3	101	3	78	4	71	5	75	6	70	4	73	4	74	6	85	6	78	3	71	4	93	4	83	5	82	3	81	5	80
14–20	3	104	2	80	1	72	3	78	1	71	3	76	2	76	3	88	2	80	3	74	3	96	2	85	3	85	2	83	2	82
21–27	3	107	2	82	4	76	4	82	4	75	3	79	4	80	2	90	2	82	3	77	3	99	3	88	2	87	3	86	3	85
May 28–June 3	5	112	6	88	5	81	3	85	5	80	3	82	4	84	6	96	6	88	6	83	6	105	7	95	6	93	4	90	5	90
June 4–10	2	114	2	90	3	84	4	89	2	82	4	86	3	87	2	98	2	90	2	85	1	106	1	96	2	95	3	93	3	93
11–17	4	118	2	92	1	85	1	90	1	83	2	88	2	89	3	101	1	91	2	87	3	109	3	99	2	97	2	95	2	95
18–24	0	118	1	93	0	85	0	90	0	83	0	88	0	89	0	101	0	91	1	88	0	109	1	100	0	97	2	97	0	95
June 25–July 1	4	122	1	94	0	85	0	90	1	84	0	88	0	89	1	102	0	91	0	88	2	111	1	101	1	98	0	97	0	95
July 2–8	3	125	3	97	2	87	1	91	1	85	2	90	2	91	1	103	1	92	2	90	2	113	1	102	1	99	2	99	2	97
9–15	4	129	4	101	5	92	6	97	6	91	6	96	5	96	4	107	5	97	5	95	5	118	3	105	5	104	6	105	5	102
16–22	5	134	5	106	4	96	5	102	5	96	5	101	5	101	5	112	5	102	5	100	5	123	5	110	5	109	3	108	5	107
23–29	4	138	3	109	4	100	5	107	4	100	4	105	4	105	3	115	3	105	4	104	4	127	5	115	4	113	5	113	4	111
July 30–Aug. 5	5	143	4	113	4	104	4	111	4	104	4	109	4	109	4	119	4	109	5	109	5	132	5	120	5	118	3	116	4	115
Aug. 6–12	5	148	6	119	6	110	6	117	5	109	5	114	6	115	4	123	5	114	5	114	5	137	5	125	5	123	4	120	6	121
13–19	6	154	6	125	4	114	3	120	3	112	3	117	4	119	6	129	5	119	5	119	7	144	6	131	6	129	5	125	5	126
20–26	7	161	5	130	6	120	6	126	5	117	5	122	5	124	6	135	6	125	5	124	6	150	4	135	5	134	5	130	5	131
Aug. 27–Sept. 2	3	164	3	133	2	122	1	127	1	118	1	123	2	126	4	139	1	126	2	126	4	154	2	137	3	137	3	133	3	134
Sept. 3–9	2	166	1	134	1	123	2	129	2	120	0	123	1	127	2	141	1	127	2	128	3	157	3	140	2	139	1	134	1	135
10–16	2	168	2	136	2	125	1	130	1	121	0	123	1	128	3	144	2	129	1	129	3	160	3	143	3	142	1	135	2	137
17–23	6	174	4	140	3	128	3	133	4	125	3	126	4	132	5	149	5	134	5	134	6	166	6	149	5	147	5	140	5	142
Sept. 24–30	6	180	5	145	5	133	5	138	3	128	3	129	4	136	4	153	5	139	4	138	5	171	2	151	4	151	4	144	4	146
Oct. 1–7	6	186	6	151	5	138	6	144	6	134	6	135	6	142	6	159	6	145	6	144	6	177	5	156	6	157	6	150	6	152
8–14	4	190	5	156	5	143	3	147	3	137	4	139	4	146	4	163	4	149	6	150	5	182	5	161	5	162	5	155	5	157
15–21	5	195	5	161	6	149	6	153	7	144	6	145	6	152	4	167	6	155	7	157	6	188	7	168	6	168	7	162	6	163
22–28	4	199	6	167	6	155	6	159	5	149	4	149	5	157	2	169	4	159	4	161	2	190	2	170	2	170	6	168	3	166
Oct. 29–Nov. 4	6	205	6	173	5	160	4	163	5	154	5	154	5	162	7	176	6	165	6	167	7	197	6	176	6	176	7	175	6	172
Nov. 5–11	5	210	2	175	0	160	1	164	1	155	1	155	1	163	3	179	5	170	2	169	4	201	4	180	4	180	4	179	2	174
12–18	4	214	2	177	3	163	2	166	2	157	1	156	2	165	3	182	4	174	3	172	2	203	3	183	3	183	4	183	3	177
19–25	4	218	3	180	3	166	3	169	3	160	2	158	3	168	5	187	3	177	4	176	5	208	4	187	4	187	4	187	3	180
Nov. 26–Dec. 2	5	223	2	182	2	168	3	172	1	161	0	158	2	170	2	189	2	179	3	179	4	212	3	190	3	190	3	190	3	183
Dec. 3–9	5	228	4	186	5	173	5	177	4	165	4	162	4	174	4	193	3	182	3	182	4	216	4	194	3	193	4	194	4	187
10–16	6	234	3	189	3	176	4	181	3	168	5	167	4	178	6	199	6	188	6	188	6	222	5	199	6	199	7	201	5	192
17–23	7	241	6	195	4	180	5	186	5	173	6	173	5	183	7	206	7	195	7	195	7	229	7	206	7	206	7	208	6	198
Dec. 24–30	4	245	2	197	2	182	3	189	2	175	2	175	2	185	5	211	2	197	2	197	3	232	4	210	3	209	2	210	2	200

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TABLE II.—SHOWING THE WEEKLY AND PROGRESSIVE AMOUNTS OF RAINFALL IN EACH DISTRICT, DURING THE YEAR 1889.

DATE. — LIMITS OF WEEKS.	Principal Wheat-producing Districts.												Principal Grazing, &c. Districts.												Channel Islands.		Means for the British Islands generally.	
	0. Scotland, N.		1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat-producing Districts.		6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.		Means for Grazing, &c. Districts.					
	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.
	Rainfall in Inches.																											
1889.																												
Jan. 1-7	0·20	0·20	0·09	0·09	0·02	0·02	0·02	0·02	0·01	0·01	0·02	0·02	0·03	0·03	0·26	0·26	0·04	0·04	0·02	0·02	0·29	0·29	0·73	0·73	0·27	0·27	0·01	0·01	0·15	0·15
8-14	0·73	0·93	0·48	0·57	0·77	0·79	0·48	0·50	0·53	0·54	0·50	0·52	0·56	0·59	0·90	1·16	0·29	0·33	0·85	0·87	1·14	1·43	1·30	2·03	0·89	1·16	0·87	0·88	0·73	0·88
15-21	1·35	2·28	0·31	0·88	0·08	0·87	0·16	0·66	0·15	0·69	0·11	0·63	0·16	0·75	1·29	2·45	0·28	0·61	0·25	1·12	1·02	2·45	1·14	3·17	0·80	1·96	0·42	1·30	0·48	1·36
22-28	1·06	3·34	0·13	1·01	0·11	0·98	0·03	0·69	0·05	0·74	0·08	0·71	0·08	0·83	0·94	3·39	0·30	0·91	0·36	1·48	0·41	2·86	0·50	3·67	0·50	2·46	0·16	1·46	0·29	1·65
Jan. 29-Feb. 4	1·88	5·22	0·68	1·69	0·34	1·32	0·32	1·01	0·56	1·30	0·51	1·22	0·48	1·31	1·40	4·79	0·97	1·88	1·11	2·59	1·18	4·04	0·93	4·60	1·12	3·58	0·98	2·44	0·80	2·45
Feb. 5-11	1·13	6·35	0·50	2·19	0·37	1·69	0·81	1·82	0·90	2·20	0·89	2·11	0·69	2·00	0·68	5·47	0·95	2·83	0·90	3·49	0·85	4·89	0·75	5·35	0·83	4·41	0·73	3·17	0·76	3·21
12-18	2·57	8·92	0·60	2·79	0·12	1·81	0·31	2·13	0·26	2·46	0·66	2·77	0·39	2·39	1·93	7·40	0·88	3·71	1·62	5·11	0·88	5·77	1·06	6·41	1·27	5·68	0·96	4·13	0·83	4·04
19-25	0·66	9·58	0·27	3·06	0·19	2·00	0·27	2·40	0·10	2·56	0·29	3·06	0·23	2·62	0·39	7·79	0·06	3·77	0·18	5·29	0·39	6·16	0·35	6·76	0·27	5·95	0·13	4·26	0·25	4·29
Feb. 26-Mar. 4	0·39	9·97	0·37	3·43	0·49	2·49	0·14	2·54	0·13	2·69	0·19	3·25	0·26	2·88	0·07	7·86	0·05	3·82	0·67	5·96	0·19	6·35	0·32	7·08	0·26	6·21	0·40	4·66	0·26	4·55
Mar. 5-11	0·79	10·76	0·28	3·71	1·01	3·50	0·72	3·26	1·86	4·55	0·98	4·23	0·97	3·85	0·95	8·81	0·55	4·37	1·94	7·90	0·39	6·74	0·51	7·59	0·87	7·08	1·33	5·99	0·92	5·47
12-18	0·78	11·54	0·33	4·04	0·08	3·58	0·02	3·28	0·05	4·60	0·04	4·27	0·10	3·95	0·26	9·07	0·13	4·50	0·09	7·99	0·23	6·97	0·31	7·90	0·20	7·28	0·09	6·08	0·15	5·62
19-25	1·66	13·20	0·64	4·68	1·15	4·73	0·43	3·71	0·81	5·41	0·61	4·88	0·73	4·68	1·12	10·19	1·19	5·69	0·85	8·84	0·97	7·94	0·42	8·32	0·91	8·19	0·47	6·55	0·82	6·44
Mar. 26-April 1	0·62	13·82	0·14	4·82	0·09	4·82	0·23	3·94	0·23	5·64	0·25	5·13	0·19	4·87	0·36	10·55	0·29	5·98	0·25	9·09	0·66	8·60	0·28	8·60	0·37	8·56	0·11	6·66	0·28	6·72
April 2-8	0·49	14·31	1·21	6·03	1·13	5·95	0·42	4·36	1·77	7·41	0·81	5·94	1·07	5·94	0·91	11·46	1·06	7·04	0·70	9·79	0·97	9·57	0·48	9·08	0·82	9·38	0·34	7·00	0·95	7·67
9-15	0·47	14·78	0·47	6·50	0·35	6·30	0·63	4·99	0·88	8·29	0·53	6·47	0·57	6·51	0·22	11·68	0·60	7·64	0·49	10·28	0·30	9·87	0·19	9·27	0·36	9·74	0·13	7·13	0·46	8·13
16-22	0·82	15·60	0·28	6·78	0·11	6·41	0·08	5·07	0·18	8·47	0·11	6·58	0·15	6·66	0·86	12·54	0·33	7·97	0·17	10·45	0·72	10·59	0·40	9·67	0·50	10·24	0·10	7·23	0·33	8·46
23-29	0·46	16·06	0·74	7·52	0·42	6·83	0·74	5·81	0·61	9·08	0·73	7·31	0·65	7·31	0·76	13·30	0·60	8·57	0·81	11·26	0·86	11·45	1·34	11·01	0·87	11·11	0·89	8·12	0·76	9·22
April 30-May 6	0·34	16·40	0·69	8·21	0·40	7·23	0·36	6·17	0·48	9·56	0·41	7·72	0·47	7·78	1·07	14·37	0·59	9·16	0·55	11·81	1·38	12·83	1·61	12·62	1·04	12·15	0·78	8·90	0·75	9·97
May 7-13	0·25	16·65	0·33	8·54	0·69	7·92	1·35	7·52	1·22	10·78	0·41	8·13	0·80	8·58	1·41	15·78	1·30	10·46	0·45	12·26	0·79	13·62	0·95	13·57	0·98	13·13	0·14	9·04	0·89	10·86
14-20	0·26	16·91	0·42	8·96	0·05	7·97	0·29	7·81	0·13	10·91	0·31	8·44	0·24	8·82	0·52	16·30	0·34	10·80	0·94	13·20	0·27	13·89	0·25	13·82	0·46	13·59	0·45	9·49	0·35	11·21
21-27	0·39	17·30	0·32	9·28	1·14	9·11	1·31	9·12	1·46	12·37	1·40	9·84	1·12	9·94	0·12	16·42	0·16	10·96	0·45	13·65	0·55	14·44	0·55	14·37	0·37	13·96	0·18	9·67	0·75	11·96
May 28-June 3	0·75	18·05	0·97	10·25	0·44	9·55	0·74	9·46	0·88	13·25	0·33	10·17	0·59	10·53	1·37	17·79	1·47	12·43	0·84	14·49	0·95	15·39	1·51	15·88	1·23	15·19	0·43	10·10	0·91	12·87
June 4-10	0·17	18·22	0·31	10·56	0·25	9·80	1·77	11·23	0·41	13·66	0·61	10·78	0·67	11·20	0·19	17·98	0·19	12·62	0·20	14·69	0·04	15·43	0·03	15·91	0·13	15·32	0·75	10·85	0·40	13·27
11-17	0·31	18·53	0·07	10·63	0·01	9·81	0·02	11·25	0·02	13·68	0·08	10·86	0·04	11·24	0·21	18·19	0·10	12·72	0·12	14·81	0·30	15·73	0·17	16·08	0·18	15·50	0·05	10·90	0·11	13·38
18-24	0·00	18·53	0·01	10·64	0·01	9·82	0·02	11·27	0·01	13·69	0·01	10·87	0·01	11·25	0·00	18·19	0·01	12·73	0·14	14·95	0·00	15·73	0·07	16·15	0·05	15·55	1·05	11·95	0·03	13·41
June 25-July 1	0·14	18·67	0·02	10·66	0·00	9·82	0·00	11·27	0·03	13·77	0·00	10·87	0·02	11·27	0·06	18·25	0·00	12·73	0·00	14·95	0·04	15·77	0·02	16·17	0·02	15·57	0·00	11·95	0·02	13·43
July 2-8	0·54	19·21	0·25	10·91	0·18	10·00	0·03	11·30	0·02	13·79	0·25	11·12	0·14	11·41	0·04	18·29	0·07	12·80	0·61	15·56	0·08	15·85	0·09	16·26	0·18	15·75	0·81	12·76	0·16	13·59
9-15	0·37	19·58	1·17	12·08	1·95	10·95	2·25	13·55	1·83	15·62	1·00	12·12	1·44	12·85	1·37	19·66	1·01	13·81	1·32	16·88	1·19	17·04	0·37	16·63	1·05	16·80	0·78	13·54	1·25	14·84
16-22	0·43	20·01	0·84	12·92	1·74	11·69	0·41	13·96	0·46	16·08	0·79	12·91	0·65	13·50	0·76	20·42	0·76	14·57	0·83	17·71	0·97	18·01	0·97	17·60	0·86	17·66	0·69	14·23	0·75	15·59
23-29	0·47	20·48	0·50	13·42	1·59	12·28	0·54	14·50	0·51	16·59	0·75	13·66	0·58	14·08	0·60	21·02	0·63	15·20	0·65	18·36	0·46	18·47	0·76	18·36	0·62	18·28	0·41	14·64	0·60	16·19
July 30-Aug. 5	0·63	21·11	1·13	14·55	0·61	12·89	0·62	15·12	0·63	17·22	0·47	14·13	0·69	14·77	0·88	21·90	1·21	16·41	1·01	19·37	1·36	19·83	0·87	19·23	1·07	19·35	0·72	15·36	0·88	17·07
Aug. 6-12	0·70	21·81	1·45	16·00	1·47	14·36	1·21	16·33	0·95	18·17	0·67	14·80	1·15	15·92	0·79	22·69	1·00	17·41	0·83	20·20	1·27	21·10	1·20	20·43	1·02	20·37	0·44	15·80	1·09	18·16
13-19	1·45	23·26	1·32	17·32	1·10	15·46	0·37	16·70	0·64	18·81	0·57	15·37	0·80	16·72	2·46	25·15	1·39	18·80	0·87	21·07	2·32	23·42	2·90	23·33	1·99	22·36	0·42	16·22	1·39	19·55
20-26	2·32	25·58	0·77	18·09	0·71	16·17	0·72	17·42	0·76	19·57	0·73	16·10	0·74	17·46	0·54	25·69	1·19	19·99	0·95	22·02	0·90	24·32	0·94	24·27	0·90	23·26	0·68	16·90	0·82	20·37
Aug. 27-Sept. 2	0·92	26·50	0·31	18·40	0·21	16·38	0·68	18·10	0·10	19·67	0·23	16·33	0·31	17·77	0·86	26·55	0·07	20·06	0·17	22·19	0·68	25·00	0·20	24·47	0·39	23·65	0·27	17·17	0·35	20·72
Sept. 3-9	0·21	26·71	0·03	18·43	0·03	16·41	0·13	18·23	0·24	19·91	0·01	16·34	0·09	17·86	0·14	26·69	0·03	20·09	0·14	22·33	0·22	25·22	0·16	24·63	0·14	23·79	0·06	17·23	0·11	20·83
10-16	0·49	27·20	0·15	18·58	0·19	16·60	0·01	18·24	0·02	19·93	0·00	16·34	0·07	17·93	0·25	26·94	0·14	20·23	0·01	22·34	0·68	25·90	0·35	24·98	0·29	24·08	0·01	17·24	0·18	21·01
17-23	1·65	28·85	0·43	19·04	0·28	16·88	0·64	18·88	1·13	21·06	0·51	16·85	0·60	18·53	1·45	28·39	1·68	21·91	1·48	23·82	0·96	26·86	0·91	25·89	1·29	25·37	0·46	17·70	0·95	21·96
Sept. 24-30	0·85	29·70	0·38	19·42	0·61	17·49	1·44	20·32	0·47	21·53	0·66	17·51	0·71	19·24	0·68	29·07	0·97	22·88	0·18	24·00	0·83	27·69	0·08	25·97	0·55	25·92	0·24	17·94	0·63	22·59
Oct. 1-7	1·66	31·36	1·05	20·47	0·52	18·01	0·74	21·06	0·54	22·07	1·17	18·68	0·80	20·04	1·68	30·75	1·16	24·04	1·40	25·40	1·65	29·34	1·23	27·20	1·42	27·34	1·11	19·05	1·11	23·70
8-14	0·50	31·86	0·69	21·16	1·19	19·20	0·34	21·40	0·30	22·37	0·99	19·67	0·70	20·74	1·10	31·85	1·08	25·12	0·93	26·33	0·87	30·21	0·66	27·86	0·93	28·27	1·56	20·61	0·82	24·52
15-21	0·65	32·51	1·11	22·27	1·14	20·34	1·32	22·72	0·88	23·25	1·73	21·40	1·24	21·98	0·59	32·44	1·05	26·17	2·19	28·52	1·23	31·44	2·12	29·98	1·44	29·71	2·20	22·81	1·34	25·86
22-28	0·19	32·70	0·51	22·78	1·27	21·61	0·99	23·71	0·85	24·10	0·95	22·35	0·92	22·90	0·06	32·50	0·26	26·43	0·61	29·13	0·25	31·69	0·20	30·18	0·27	29·98	1·02	23·83	0·59	26·45
Oct. 29-Nov. 4	2·01	34·71	0·94	23·72	0·44	22·05	0·50	24·21	0·52	24·62	0·98	23·33	0·68	23·58	1·91	34·41	0·95	27·38	1·43	30·56	1·40	33·09	1·01	31·19	1·34	31·32	1·36	25·19	1·01	27·46
Nov. 5-11	0·79	35·50	0·11	23·83	0·60	22·65	0·02	24·23	0·01	24·63	0·01	23·44	0·03	23·61	0·40	34·81	0·19	27·57	0·12	30·68	0·10	33·19	0·15	31·34	0·19	31·51	0·15	25·34	0·11	27·57
12-18	0·28	35·78	0·05	23·88	0·19	22·24	0·09	24·32	0·14	24·77	0·05	23·39	0·10	23·71	0·29	35·10	0·44	28·01	0·14	30·82	0·14	33·33	0·25	31·59	0·23	31·76	0·27	25·61	0·18	27·75
19-25	0·99	36·77	0·39	24·27	0·14	22·38	0·33	24·65	0·49	25·26	0·53	23·92	0·38	24·09	1·70	36·80	0·80	28·81	1·05	31·87	0·84	34·17	1·16	32·75	1·11	32·87	1·46	27·07	0·74	28·49
Nov. 26-Dec. 2	0·59	37·36	0·12	24·39	0·37	22·75	0·35	25·00	0·03	25·29	0·03	23·95	0·18	24·27	0·33	37·13	0·14	28·95	0·71	32·58	0·53	34·70	0·43	33·18	0·43	33·30	0·34	27·41	0·31	28·80
Dec. 3-9	1·49	38·85	0·38	24·77	0·80	23·55	0·49	25·49	0·52	25·81	0·53	24·48	0·54	24·81	1·20	38·33	0·89	29·84	0·63	33·21	1·02	35·72	0·86	34·04	0·92	34·22	0·72	28·13	0·73	29·53
10-16	0·86	39·71	0·23	25·00	0·13	23·68	0·15	25·64	0·14	25·95	0·27	24·75	0·18	24·99	1·25	39·58	0·51	30·35	0·65	33·86	0·60	36·32	0·74	34·78	0·75	34·97	0·80	28·93	0·46	29·99
17-23	1·66	41·37	0·84	25·84	0·34	24·02	0·48	26·12	0·78	26·73	0·92	25·67	0·67	25·66	2·31	41·89	1·73	32·08	1·88	35·74	1·65	37·97	1·87	36·65	1·89	36·86	1·17	30·10	1·28	31·27
Dec. 24-30	0·59	41·96	0·18	26·02	0·09	24·11	0·16	26·28	0·11	26·84	0·08	25·75	0·13	25·79	0·49	42·38	0·17	32·25	0·05	35·79	0·48	38·45	0·87	37·52	0·41	37·27	0·06	30·16	0·27	31·54

TABLE III.—SHOWING THE WEEKLY AND PROGRESSIVE VALUES OF ACCUMULATED HEAT ABOVE 42° F. IN EACH DISTRICT, DURING THE YEAR 1889.

DATE. — LIMITS OF WEEKS.	Principal Wheat-producing Districts.												Principal Grazing, &c. Districts.												Channel Islands.		Means for the British Islands generally.	
	0. Scotland, N.		1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat-producing Districts.		6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.		Means for Grazing, &c. Districts.					
	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.
	Day-Degrees above 42° Fahrenheit.																											
1889.																												
Jan. 1-7	10	10	4	4	0	0	0	0	0	0	0	0	1	1	5	5	0	0	0	0	3	3	4	4	2	2	21	21	2	2
8-14	2	12	0	4	0	0	0	0	0	0	1	1	0	1	0	5	0	0	5	5	3	6	19	23	6	8	22	43	3	5
15-21	11	23	12	16	6	6	0	0	6	6	4	5	6	7	19	24	9	9	24	29	26	32	32	55	22	30	26	69	14	19
22-28	12	35	17	33	11	17	7	7	8	14	7	12	10	17	23	47	9	18	11	40	21	53	21	76	17	47	21	90	13	32
Jan. 29-Feb. 4	8	43	14	47	14	31	15	22	15	29	21	33	16	33	13	60	20	38	21	61	21	74	27	103	20	67	25	115	18	50
Feb. 5-11	0	43	0	47	0	31	0	22	0	29	0	33	0	33	0	60	0	38	7	68	0	74	12	115	4	71	22	137	2	52
12-18	2	45	11	58	10	41	10	32	16	45	15	48	12	45	14	74	12	50	26	94	27	101	35	150	23	94	27	164	18	70
19-25	1	46	3	61	0	41	0	32	2	47	2	50	2	47	6	80	2	52	8	102	12	113	22	172	10	104	13	177	6	76
Feb. 26-Mar. 4	0	46	0	61	0	41	0	32	0	47	0	50	0	47	0	80	0	52	0	102	0	113	2	174	1	105	1	178	1	77
Mar. 5-11	1	47	2	63	0	41	0	41	4	51	11	61	5	52	4	84	2	54	12	114	14	127	18	192	10	115	25	203	7	84
12-18	8	55	26	89	28	69	17	58	32	83	22	83	25	77	26	110	20	74	30	144	30	157	37	229	29	144	27	230	27	111
19-25	10	65	17	106	23	92	36	94	32	115	28	111	27	104	20	130	23	97	26	170	24	181	28	257	24	168	26	256	25	136
Mar. 26-April 1	24	89	34	140	30	122	35	129	36	151	38	149	35	139	25	155	24	121	32	202	31	212	39	296	30	198	32	288	33	169
April 2-8	0	89	0	140	3	125	18	147	17	168	31	180	14	153	7	162	11	132	27	229	18	230	28	324	18	216	33	321	16	185
9-15	10	99	8	148	5	130	12	159	12	180	24	204	12	165	13	175	12	144	27	256	21	251	29	353	21	237	29	350	17	202
16-22	28	127	45	193	41	171	46	205	46	226	44	248	45	210	33	208	34	178	41	297	37	288	43	396	38	275	52	402	41	243
23-29	28	155	33	226	36	207	43	248	47	273	41	289	40	250	35	243	39	217	38	335	32	320	38	434	36	311	49	451	38	281
April 30-May 6	48	203	47	273	45	252	69	317	71	344	82	371	63	313	64	307	71	288	64	399	59	379	69	494	64	375	65	516	64	345
May 7-13	68	271	67	340	61	313	80	397	77	421	83	454	74	387	78	385	76	364	67	466	64	443	62	556	69	444	74	590	72	417
14-20	63	334	62	402	62	375	76	473	90	511	91	545	76	463	81	466	84	448	78	544	76	519	83	639	81	525	83	673	78	495
21-27	80	414	95	497	94	469	116	589	109	620	124	669	108	571	92	558	96	544	97	641	88	607	89	728	92	617	103	776	100	595
May 28-June 3	77	491	85	582	95	564	109	698	102	722	110	779	100	671	85	643	93	639	86	727	80	687	76	804	84	701	96	872	92	687
June 4-10	74	565	83	665	88	652	108	806	113	835	131	910	105	776	92	735	103	742	115	842	84	771	92	896	97	798	111	983	101	788
11-17	81	646	101	766	107	759	106	912	106	941	112	1022	106	882	89	824	96	838	104	946	91	862	96	992	95	893	109	1092	101	889
18-24	93	739	106	872	102	861	108	1020	118	1059	127	1149	112	994	125	949	125	963	127	1073	120	982	130	1122	126	1019	124	1216	119	1008
June 25-July 1	95	834	118	990	129	990	138	1158	139	1198	151	1300	135	1129	118	1067	125	1088	129	1202	113	1095	121	1243	121	1140	137	1353	128	1136
July 2-8	84	918	99	1089	113	1103	119	1277	125	1323	137	1437	119	1248	114	1181	116	1204	130	1332	113	1208	121	1364	119	1259	138	1491	119	1255
9-15	69	987	83	1172	110	1213	135	1412	122	1445	139	1576	118	1366	95	1276	112	1316	120	1452	95	1303	99	1463	104	1363	136	1627	111	1366
16-22	69	1056	81	1253	92	1305	109	1521	97	1542	117	1693	99	1465	88	1364	95	1411	104	1556	85	1388	99	1562	94	1457	122	1749	97	1463
23-29	89	1145	100	1353	101	1406	109	1630	106	1648	119	1812	107	1572	93	1457	102	1513	109	1665	99	1487	113	1675	103	1560	121	1870	105	1568
July 30-Aug. 5	114	1259	125	1478	139	1545	152	1782	147	1795	152	1964	143	1715	124	1581	137	1650	133	1798	120	1607	125	1800	128	1688	149	2019	136	1704
Aug. 6-12	88	1347	95	1573	106	1651	111	1893	101	1896	113	2077	105	1820	99	1680	106	1756	106	1904	99	1706	106	1906	103	1791	124	2143	104	1808
13-19	84	1431	96	1669	112	1763	125	2018	118	2014	127	2204	116	1936	102	1782	115	1871	116	2020	105	1811	115	2021	111	1902	130	2273	114	1922
20-26	62	1493	79	1748	87	1850	95	2113	87	2101	109	2313	91	2027	80	1862	90	1961	95	2115	78	1889	90	2111	86	1988	116	2389	88	2010
Aug. 27-Sept. 2	87	1580	97	1845	107	1957	125	2238	118	2219	132	2445	116	2143	93	1957	111	2072	121	2236	104	1993	111	2222	108	2096	134	2523	112	2122
Sept. 3-9	100	1680	98	1943	109	2066	123	2361	121	2340	132	2577	116	2259	113	2070	119	2191	128	2364	121	2114	125	2347	121	2217	137	2660	119	2241
10-16	76	1756	93	2036	109	2175	125	2486	125	2465	137	2714	118	2377	101	2171	113	2304	123	2487	118	2232	122	2469	116	2333	139	2799	117	2358
17-23	33	1789	44	2080	49	2224	54	2540	54	2519	60	2774	52	2429	42	2213	53	2357	64	2551	57	2289	71	2540	58	2391	101	2900	55	2413
Sept. 24-30	35	1824	42	2122	48	2272	55	2595	55	2574	69	2843	54	2483	49	2262	60	2417	73	2624	61	2350	78	2618	64	2455	92	2992	59	2472
Oct. 1-7	39	1863	42	2164	49	2321	53	2648	46	2620	65	2908	51	2534	46	2308	53	2470	60	2684	52	2402	57	2675	54	2509	83	3075	53	2525
8-14	35	1898	37	2201	38	2359	49	2697	51	2671	52	2960	45	2579	41	2349	40	2510	48	2732	41	2443	44	2719	42	2551	70	3145	43	2568
15-21	39	1937	34	2235	43	2402	51	2748	43	2714	64	3024	47	2626	44	2393	41	2551	53	2785	49	2492	48	2767	47	2598	75	3220	47	2615
22-28	18	1955	21	2256	27	2429	33	2781	26	2740	41	3065	30	2656	27	2420	25	2576	34	2819	32	2524	31	2798	30	2628	66	3286	30	2645
Oct. 29-Nov. 4	28	1983	29	2285	33	2462	40	2821	38	2778	51	3116	38	2694	33	2453	41	2617	48	2867	35	2559	40	2838	39	2667	71	3357	39	2684
Nov. 5-11	37	2020	49	2334	46	2508	44	2865	43	2821	42	3158	45	2739	50	2503	49	2666	49	2916	48	2607	50	2888	49	2716	65	3422	48	2732
12-18	32	2052	32	2366	27	2535	32	2897	31	2852	48	3206	34	2773	33	2536	32	2698	60	2976	37	2644	53	2941	43	2759	64	3486	38	2770
19-25	27	2079	25	2391	21	2556	19	2916	24	2876	31	3237	24	2797	29	2565	27	2725	43	3019	29	2673	36	2977	33	2792	53	3539	28	2798
Nov. 26-Dec. 2	1	2080	0	2391	0	2556	0	2916	0	2876	0	3237	0	2797	2	2567	0	2725	3	3022	7	2680	12	2989	5	2797	19	3558	3	2801
Dec. 3-9	9	2089	5	2396	0	2556	0	2916	0	2876	0	3237	1	2798	9	2576	0	2725	6	3028	11	2691	24	3013	10	2807	18	3576	6	2807
10-16	5	2094	5	2401	0	2556	1	2917	6	2882	9	3246	4	2802	9	2585	6	2731	16	3044	11	2702	17	3030	12	2819	32	3608	8	2815
17-23	7	2101	10	2411	21	2577	29	2946	29	2911	31	3277	24	2826	22	2607	21	2752	30	3074	22	2724	33	3063	26	2845	46	3654	25	2840
Dec. 24-30	12	2113	5	2416	0	2577	0	2946	0	2911	0	3277	1	2827	9	2616	1	2753	6	3080	21	2745	26	3089	12	2857	23	3677	6	2846

TABLE IV.—SHOWING THE WEEKLY AND PROGRESSIVE VALUES OF ACCUMULATED HEAT BELOW 42° F. IN EACH DISTRICT, DURING THE YEAR 1889.

DATE. — LIMITS OF WEEKS.	0. Scotland, N.		Principal Wheat-producing Districts.												Principal Grazing, &c. Districts.												Channel Islands.		Means for the British Islands generally.	
			1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat-producing Districts.		6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.		Means for Grazing, &c. Districts.					
	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.
	Day-Degrees below 42° Fahrenheit.																													
1889.																														
Jan. 1-7	26	26	39	39	50	50	92	92	92	92	65	65	68	68	30	30	42	42	39	39	36	36	33	33	36	36	10	10	52	52
8-14	28	54	36	75	29	79	37	129	34	126	27	92	33	101	25	55	20	62	22	61	31	67	18	51	23	59	4	14	28	80
15-21	25	79	30	105	28	107	36	165	33	159	30	122	31	132	10	65	18	80	13	74	8	75	6	57	11	70	3	17	21	101
22-28	23	102	31	136	30	137	36	201	31	190	29	151	31	163	15	80	23	103	11	85	10	85	4	61	13	83	0	17	22	123
Jan. 29-Feb. 4	28	130	29	165	24	161	30	231	26	216	13	164	24	187	21	101	11	114	9	94	12	97	6	67	12	95	0	17	18	141
Feb. 5-11	77	207	66	231	60	221	61	292	55	271	46	210	58	245	53	154	44	158	34	128	34	131	27	94	38	133	9	26	48	189
12-18	38	245	37	268	33	254	48	340	41	312	44	254	41	286	27	181	26	184	17	145	17	148	10	104	19	152	6	32	30	219
19-25	30	275	32	300	28	282	33	373	30	342	26	280	29	315	22	203	24	208	26	171	23	171	12	116	22	174	4	36	26	245
Feb. 26-Mar. 4	67	342	77	377	74	356	79	452	73	415	67	347	74	389	64	267	67	275	61	232	52	223	38	154	56	230	26	62	65	310
Mar. 5-11	39	381	45	422	41	397	41	493	42	457	31	378	40	429	34	301	32	307	29	261	33	256	35	189	33	263	7	69	37	347
12-18	22	403	16	438	17	414	35	528	16	473	21	399	21	450	4	305	8	315	10	271	0	256	0	189	5	268	6	75	13	360
19-25	25	428	23	461	13	427	13	541	15	488	13	412	16	466	10	315	11	326	13	284	8	264	9	198	10	278	2	77	13	373
Mar. 26-April 1	15	443	15	476	13	440	16	557	17	505	15	427	15	481	11	326	10	336	10	294	5	269	1	199	7	285	0	77	11	384
April 2-8	26	469	30	506	22	462	25	582	21	526	8	435	21	502	20	346	19	355	8	302	8	277	5	204	12	297	0	77	17	401
9-15	28	497	25	531	18	480	20	602	22	548	8	443	19	521	22	368	20	375	13	315	12	289	15	219	16	313	0	77	17	418
16-22	6	503	4	535	1	481	8	610	4	552	1	444	4	525	0	368	0	375	0	315	1	290	2	221	1	314	0	77	2	420
23-29	11	514	13	548	8	489	9	619	12	564	4	448	9	534	7	375	7	382	6	321	7	297	4	225	6	320	0	77	8	428
April 30-May 6	0	514	0	548	0	489	0	619	0	564	0	448	0	534	0	375	0	382	0	321	0	297	0	225	0	320	0	77	0	428
May 7-13	0	514	0	548	0	489	0	619	0	564	0	448	0	534	0	375	0	382	0	321	0	297	0	225	0	320	0	77	0	428
14-20	0	514	0	548	0	489	0	619	0	564	0	448	0	534	0	375	0	382	0	321	0	297	0	225	0	320	0	77	0	428
21-27	0	514	0	548	0	489	0	619	0	564	0	448	0	534	0	375	0	382	0	321	0	297	0	225	0	320	0	77	0	428
May 28-June 3	0	514	0	548	0	489	0	619	0	564	0	448	0	534	0	375	0	382	0	321	0	297	0	225	0	320	0	77	0	428
June 4-10	0	514	0	548	0	489	0	619	0	564	0	448	0	534	0	375	0	382	0	321	0	297	0	225	0	320	0	77	0	428
11-17	0	514	0	548	0	489	0	619	0	564	0	448	0	534	0	375	0	382	0	321	0	297	0	225	0	320	0	77	0	428
18-24	0	514	0	548	0	489	0	619	0	564	0	448	0	534	0	375	0	382	0	321	0	297	0	225	0	320	0	77	0	428
June 25-July 1	0	514	0	548	0	489	0	619	0	564	0	448	0	534	0	375	0	382	0	321	0	297	0	225	0	320	0	77	0	428
July 2-8	0	514	0	548	0	489	0	619	0	564	0	448	0	534	0	375	0	382	0	321	0	297	0	225	0	320	0	77	0	428
9-15	0	514	0	548	0	489	0	619	0	564	0	448	0	534	0	375	0	382	0	321	0	297	0	225	0	320	0	77	0	428
16-22	0	514	0	548	0	489	0	619	0	564	0	448	0	534	0	375	0	382	0	321	0	297	0	225	0	320	0	77	0	428
23-29	0	514	0	548	0	489	0	619	0	564	0	448	0	534	0	375	0	382	0	321	0	297	0	225	0	320	0	77	0	428
July 30-Aug. 5	0	514	0	548	0	489	0	619	0	564	0	448	0	534	0	375	0	382	0	321	0	297	0	225	0	320	0	77	0	428
Aug. 6-12	0	514	0	548	0	489	0	619	0	564	0	448	0	534	0	375	0	382	0	321	0	297	0	225	0	320	0	77	0	428
13-19	0	514	0	548	0	489	0	619	0	564	0	448	0	534	0	375	0	382	0	321	0	297	0	225	0	320	0	77	0	428
20-26	0	514	0	548	0	489	0	619	0	564	0	448	0	534	0	375	0	382	0	321	0	297	0	225	0	320	0	77	0	428
Aug. 27-Sept. 2	0	514	0	548	0	489	0	619	0	564	0	448	0	534	0	375	0	382	0	321	0	297	0	225	0	320	0	77	0	428
Sept. 3-9	0	514	0	548	0	489	0	619	0	564	0	448	0	534	0	375	0	382	0	321	0	297	0	225	0	320	0	77	0	428
10-16	0	514	0	548	0	489	0	619	0	564	0	448	0	534	0	375	0	382	0	321	0	297	0	225	0	320	0	77	0	428
17-23	0	514	4	552	4	493	8	627	9	573	0	448	5	539	1	376	0	382	0	321	0	297	0	225	0	320	0	77	3	431
Sept. 24-30	7	521	4	556	0	493	0	627	0	573	0	448	1	540	0	376	0	382	0	321	0	297	0	225	0	320	0	77	0	431
Oct. 1-7	0	521	1	557	0	493	0	627	0	573	0	448	1	541	0	376	0	382	0	321	0	297	0	225	0	320	0	77	0	431
8-14	14	535	16	573	3	496	10	637	18	591	4	452	10	551	11	387	2	384	6	327	8	305	10	235	7	327	0	77	9	440
15-21	0	535	3	576	0	496	0	637	3	594	0	452	1	552	0	387	0	384	0	327	0	305	0	235	0	327	0	77	1	441
22-28	26	561	13	589	0	496	0	637	2	596	0	452	3	555	7	394	1	385	0	327	10	315	10	245	6	333	0	77	4	445
Oct. 29-Nov. 4	10	571	13	602	3	499	3	640	4	600	0	452	5	560	4	398	0	385	0	327	5	320	3	248	2	335	0	77	3	448
Nov. 5-11	1	572	4	606	0	499	5	645	2	602	0	452	2	562	0	398	0	385	0	327	0	320	0	248	0	335	0	77	1	449
12-18	7	579	18	624	8	507	5	650	5	607	0	452	7	569	3	401	0	385	0	327	0	320	0	248	1	336	0	77	4	453
19-25	2	581	8	632	13	520	6	656	6	613	0	452	7	576	1	402	8	393	0	327	2	322	0	248	2	338	0	77	5	458
Nov. 26-Dec. 2	28	609	36	668	48	568	59	715	55	668	48	500	49	625	25	427	32	425	31	358	21	343	20	268	26	364	8	85	38	496
Dec. 3-9	27	636	38	706	36	604	51	766	57	725	46	546	46	671	27	454	32	457	34	392	25	368	13	281	26	390	11	96	36	532
10-16	35	671	44	750	37	641	38	804	46	771	38	584	41	712	29	483	31	488	29	421	30	398	33	314	31	421	2	98	36	568
17-23	30	701	31	781	12	653	12	816	12	783	4	588	14	726	11	494	8	496	2	423	7	405	3	317	6	427	0	98	10	578
Dec. 24-30	26	727	35	816	31	684	51	867	43	826	36	624	39	765	29	523	30	526	27	450	7	412	2	319	19	446	4	102	29	607

TABLE V.—SHOWING THE WEEKLY AND PROGRESSIVE NUMBERS OF HOURS OF BRIGHT SUNSHINE IN EACH DISTRICT, REGISTERED DURING THE YEAR 1889.

DATE. — LIMITS OF WEEKS.	0. SCOTLAND, N.		Principal Wheat-producing Districts.												Principal Grazing, &c. Districts.												CHANNEL ISLANDS.		MEANS FOR THE BRITISH ISLANDS GENERALLY.	
			1. SCOTLAND, E.		2. ENGLAND, N.E.		3. ENGLAND, E.		4. MIDLAND COUNTIES.		5. ENGLAND, S.		MEANS FOR WHEAT-PRODUCING DISTRICTS.		6. SCOTLAND, W.		7. ENGLAND, N.W.		8. ENGLAND, S.W.		9. IRELAND, N.		10. IRELAND, S.		MEANS FOR GRAZING, &c. DISTRICTS.					
	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.
	NUMBERS OF HOURS OF BRIGHT SUNSHINE.																											
1889.																												
Jan. 1-7	4	4	13	13	6	6	9	9	7	7	10	10	9	9	6	6	8	8	13	13	10	10	15	15	10	10	40	40	10	10
8-14	5	9	1	14	1	7	2	11	6	13	7	17	4	13	1	7	6	14	12	25	6	16	10	25	7	17	13	53	5	15
15-21	5	14	11	25	7	14	7	18	8	21	8	25	8	21	9	16	9	23	16	41	2	18	7	32	9	26	14	67	9	24
22-28	7	21	19	44	22	36	16	34	12	33	13	38	16	37	11	27	13	36	6	47	3	21	5	37	8	34	5	72	12	36
Jan. 29-Feb. 4	4	25	14	58	12	48	14	48	12	45	10	48	12	49	18	45	8	44	15	62	14	35	17	54	14	48	10	82	13	49
Feb. 5-11	6	31	20	78	20	68	12	60	13	58	8	56	15	64	24	69	18	62	14	76	17	52	19	73	19	67	14	96	17	66
12-18	5	36	19	97	20	88	23	83	16	74	17	73	19	83	15	84	17	79	17	93	20	72	20	93	18	85	17	113	18	84
19-25	19	55	12	109	16	104	10	93	13	87	14	87	13	96	21	105	20	99	26	119	14	86	16	109	19	104	19	132	16	100
Feb. 26-Mar. 4	33	88	19	128	14	118	22	115	15	102	10	97	16	112	12	117	17	116	15	134	16	102	25	134	17	121	34	166	17	117
Mar. 5-11	25	113	23	151	24	142	26	141	23	125	26	123	24	136	29	146	24	140	29	163	34	136	43	177	32	153	31	197	28	145
12-18	7	120	10	161	20	162	13	154	21	146	17	140	16	152	15	161	13	153	18	181	7	143	17	194	14	167	33	230	15	160
19-25	10	130	19	180	24	186	25	179	24	170	20	160	23	175	19	180	19	172	24	205	13	156	19	213	19	186	20	250	21	181
Mar. 26-April 1	20	150	27	207	23	209	18	197	22	192	27	187	23	198	32	212	27	199	37	242	25	181	30	243	30	216	47	297	26	207
April 2-8	6	156	4	211	5	214	19	216	12	204	23	210	13	211	6	218	10	209	24	266	5	186	17	260	12	228	32	329	12	219
9-15	34	190	13	224	7	221	8	224	7	211	7	217	8	219	22	240	11	220	25	291	23	209	30	290	22	250	21	350	15	234
16-22	21	211	36	260	28	249	26	250	26	237	31	248	30	249	35	275	36	256	45	336	26	235	35	325	36	286	50	400	33	267
23-29	44	255	27	287	38	287	36	286	40	277	36	284	35	284	43	318	41	297	46	382	39	274	42	367	42	328	42	442	39	306
April 30-May 6	35	290	30	317	32	319	47	333	34	311	37	321	36	320	29	347	31	328	24	406	22	296	26	393	27	358	36	478	32	338
May 7-13	38	328	39	356	15	334	26	359	12	323	14	335	21	341	22	369	14	342	37	443	22	318	21	414	23	378	56	534	22	360
14-20	18	346	33	389	36	370	19	378	23	346	31	366	28	369	35	404	45	387	40	483	25	343	30	444	35	413	33	567	31	391
21-27	29	375	61	450	40	410	53	431	41	387	43	409	48	417	62	466	57	444	50	533	45	388	57	501	54	467	49	616	51	442
May 28-June 3	26	401	32	482	42	452	67	498	55	442	60	469	51	468	36	502	38	482	44	577	33	421	36	537	37	504	54	670	44	486
June 4-10	54	455	63	545	53	505	34	532	40	482	35	504	45	513	70	572	59	541	55	632	71	492	70	607	65	569	24	694	55	541
11-17	19	474	58	603	50	555	44	576	43	525	35	539	46	559	55	627	57	598	45	677	38	530	50	657	49	618	56	750	47	588
18-24	61	535	64	667	59	614	37	613	50	575	57	596	54	613	66	693	65	664	74	751	55	585	64	721	65	683	39	789	60	648
June 25-July 1	25	560	51	718	50	664	70	683	56	631	69	665	59	672	50	743	51	715	60	811	35	620	43	764	48	731	84	873	54	702
July 2-8	46	606	46	764	51	715	38	721	44	675	36	701	43	715	62	805	58	773	41	852	53	673	51	815	53	784	68	941	48	750
9-15	28	634	27	791	29	744	34	755	26	701	27	728	29	744	28	833	33	806	35	887	34	707	49	864	36	820	31	972	33	783
16-22	16	650	23	814	19	763	43	798	49	750	43	771	35	779	27	860	28	834	52	939	19	726	39	903	33	853	61	1033	34	817
23-29	26	676	37	851	23	786	21	819	30	780	30	801	28	807	38	898	36	870	35	974	41	767	36	939	37	890	37	1070	32	849
July 30-Aug. 5	24	700	39	890	38	824	59	878	50	830	52	853	47	854	33	931	42	912	37	1011	24	791	38	977	35	925	50	1120	41	890
Aug. 6-12	21	721	15	905	14	838	38	916	31	861	42	895	28	832	28	959	21	933	51	1062	24	815	34	1011	32	957	61	1181	30	920
13-19	13	734	26	931	27	865	31	947	30	891	30	925	29	911	25	984	17	950	25	1087	18	833	26	1037	22	979	28	1209	26	946
20-26	15	749	26	957	27	892	27	974	25	916	35	960	28	939	29	1013	26	976	46	1133	24	857	35	1072	32	1011	52	1261	30	976
Aug. 27-Sept. 2	19	768	26	983	25	917	57	1031	45	961	50	1010	41	980	24	1037	22	998	45	1178	22	879	23	1095	27	1038	57	1318	34	1010
Sept. 3-9	29	797	34	1017	27	944	22	1053	18	979	24	1034	25	1005	30	1067	35	1033	26	1204	22	901	22	1117	27	1065	43	1361	26	1036
10-16	16	813	15	1032	15	959	26	1079	26	1005	45	1079	25	1030	11	1078	19	1052	38	1242	14	915	21	1138	20	1085	67	1428	23	1059
17-23	13	826	34	1066	40	999	46	1125	40	1045	40	1119	40	1070	35	1113	34	1086	37	1279	22	937	27	1165	31	1116	42	1470	35	1094
Sept. 24-30	14	840	19	1085	19	1018	15	1140	20	1065	22	1141	19	1089	35	1148	27	1113	23	1302	23	960	25	1190	27	1143	34	1504	23	1117
Oct. 1-7	16	856	17	1102	13	1031	11	1151	14	1079	18	1159	15	1104	16	1164	8	1121	27	1329	9	969	20	1210	16	1159	31	1535	16	1133
8-14	17	873	22	1124	18	1049	38	1189	32	1111	32	1191	28	1132	22	1186	29	1150	35	1364	29	998	31	1241	29	1188	38	1573	28	1161
15-21	21	894	4	1128	5	1054	18	1207	10	1121	11	1202	10	1142	6	1192	4	1154	12	1376	11	1009	14	1255	10	1198	12	1585	10	1171
22-28	25	919	6	1134	2	1056	7	1214	10	1131	10	1212	7	1149	18	1210	10	1164	10	1386	30	1039	23	1278	18	1216	17	1602	13	1184
Oct. 29-Nov. 4	5	924	9	1143	16	1072	27	1241	22	1153	23	1235	20	1169	12	1222	13	1177	20	1406	14	1053	16	1294	15	1231	24	1626	18	1202
Nov. 5-11	5	929	15	1158	16	1088	26	1267	14	1167	5	1240	15	1184	6	1228	7	1184	7	1413	2	1055	6	1300	6	1237	11	1637	10	1212
12-18	5	934	19	1177	5	1093	17	1284	5	1172	9	1249	11	1195	8	1236	9	1193	1	1414	9	1064	10	1310	7	1244	14	1651	9	1221
19-25	3	937	13	1190	13	1106	5	1289	5	1177	4	1253	8	1203	9	1245	11	1204	8	1422	13	1077	16	1326	11	1255	8	1659	10	1231
Nov. 26-Dec. 2	4	941	7	1197	5	1111	11	1300	15	1192	14	1267	10	1213	13	1238	15	1219	11	1433	8	1085	11	1337	12	1267	17	1676	11	1242
Dec. 3-9	5	946	7	1204	1	1112	4	1304	3	1195	7	1274	4	1217	9	1267	4	1223	12	1445	9	1094	10	1347	9	1276	8	1684	7	1249
10-16	4	950	13	1217	19	1131	8	1312	13	1208	11	1285	13	1230	11	1278	13	1236	15	1460	13	1107	16	1363	13	1289	15	1699	13	1262
17-23	2	952	4	1221	7	1138	8	1320	4	1212	6	1291	6	1236	8	1286	4	1240	3	1463	8	1115	8	1371	6	1295	5	1704	6	1268
Dec. 24-30	2	954	1	1222	5	1143	8	1328	8	1220	7	1298	6	1242	2	1288	3	1243	15	1478	4	1119	10	1381	7	1302	17	1721	6	1274

TABLE VI.—SHOWING THE WEEKLY AND PROGRESSIVE VALUES FOR THE PERCENTAGES OF THE POSSIBLE DURATION OF BRIGHT SUNSHINE IN EACH DISTRICT, WHICH WAS ACTUALLY RECORDED DURING THE YEAR 1889.

DATE. — LIMITS OF WEEKS.	0. Scotland, N.		Principal Wheat-producing Districts.												Principal Grazing, &c. Districts.												Channel Islands.		Means for the British Islands generally.	
			1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat Producing Districts.		6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.		Means for Grazing, &c. Districts.					
	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.	Weekly.	From Jan. 1.
	Percentages of Possible Duration.																													
1889.																														
Jan. 1-7	9	9	28	28	11	11	16	16	13	13	18	18	17	17	12	12	14	14	23	23	19	19	28	28	19	19	69	69	18	18
8-14	10	10	2	14	1	7	4	10	10	12	13	15	6	12	3	7	16	13	21	22	12	15	19	23	14	16	22	45	10	14
15-21	10	10	21	17	12	9	13	11	14	13	14	15	15	13	17	10	16	14	27	24	4	11	12	20	15	16	23	39	15	15
22-28	14	11	34	22	39	17	27	15	20	15	21	16	28	17	19	13	22	17	9	20	5	10	8	17	13	15	8	30	21	16
Jan. 29-Feb. 4	8	10	24	22	20	17	22	17	19	16	16	16	20	18	30	16	13	16	21	21	23	13	27	19	23	17	15	27	22	18
Feb. 5-11	9	10	33	23	27	20	18	17	20	16	12	16	22	18	39	20	28	18	22	21	26	15	30	21	29	19	20	26	26	19
12-18	8	10	28	25	29	21	33	20	24	18	25	17	28	20	22	21	26	19	25	22	30	18	30	22	27	21	24	26	28	21
19-25	29	12	17	24	23	21	15	19	17	18	20	17	18	20	29	22	28	21	36	24	20	18	23	22	27	21	26	26	23	21
Feb. 26-Mar. 4	45	17	26	24	19	21	30	20	20	18	14	17	22	20	17	21	22	21	21	23	22	18	33	24	23	21	44	28	23	21
Mar. 5-11	33	19	30	25	30	22	33	22	30	19	32	19	31	21	38	23	31	22	37	25	43	21	55	27	41	24	39	29	36	23
12-18	9	18	12	23	21	22	16	21	26	20	21	19	19	21	19	23	16	21	22	24	9	19	20	27	17	23	40	31	18	22
19-25	12	17	22	23	28	23	29	22	28	21	24	19	26	22	23	23	22	22	29	25	15	19	22	26	22	23	23	30	24	23
Mar. 26-April 1	22	18	31	24	25	23	21	22	25	21	31	21	27	22	37	24	31	22	43	27	28	20	34	27	34	24	53	32	31	23
April 2-8	6	17	5	22	6	22	20	22	13	21	25	21	14	22	6	22	11	21	27	26	6	18	18	26	14	23	35	32	14	23
9-15	35	18	14	21	7	20	8	21	7	19	8	20	9	20	23	22	12	20	27	27	24	19	31	27	23	23	23	32	16	21
16-22	21	18	36	22	28	21	26	21	27	20	32	21	30	21	36	24	36	22	46	28	26	20	35	27	36	24	51	33	33	22
23-29	41	20	26	23	38	22	35	22	39	22	36	22	35	22	42	25	40	23	46	29	38	21	41	29	41	25	42	34	38	24
April 30-May 6	32	21	28	23	31	23	46	24	32	22	36	23	35	23	28	25	30	24	23	29	21	21	25	28	25	25	35	34	30	24
May 7-13	33	22	35	24	14	22	25	24	11	22	14	22	20	23	21	25	13	23	36	29	20	21	20	28	22	25	53	35	21	24
14-20	16	22	29	24	32	23	18	24	21	22	29	23	26	23	32	25	41	24	37	30	22	21	27	28	32	26	32	35	29	24
21-27	25	22	53	26	35	24	48	25	36	23	39	24	42	24	54	27	51	26	46	31	40	22	50	29	48	27	45	36	45	26
May 28-June 3	22	22	27	26	37	25	59	27	48	24	54	26	45	26	31	27	32	26	38	31	28	23	32	29	32	27	49	36	39	27
June 4-10	44	23	52	28	45	26	30	27	35	25	31	26	39	26	60	29	51	28	49	32	61	25	61	31	56	29	21	36	47	27
11-17	15	23	48	29	42	27	38	28	37	25	31	26	39	27	46	30	49	29	40	33	32	26	43	32	42	30	50	36	40	29
18-24	49	24	52	30	49	28	32	28	43	26	50	27	45	28	55	32	56	30	65	35	47	27	55	33	56	31	35	36	51	29
June 25-July 1	20	24	42	31	42	29	61	30	48	27	61	29	51	29	42	32	43	31	53	35	29	27	38	33	41	32	79	38	46	31
July 2-8	38	25	38	31	40	30	33	30	38	28	32	29	36	30	53	33	50	32	36	36	47	28	44	34	46	33	61	39	41	32
9-15	23	25	23	31	25	29	30	30	23	28	24	29	25	29	24	33	28	32	31	35	30	28	43	34	31	33	28	39	28	31
16-22	14	24	19	30	17	29	42	30	44	28	39	29	32	29	24	32	25	31	48	36	17	27	35	34	30	32	56	40	31	31
23-29	23	24	32	31	21	28	19	30	28	28	28	29	26	29	34	32	32	31	33	36	37	28	33	34	34	32	35	39	30	31
July 30-Aug. 5	22	24	35	31	36	29	55	31	47	29	49	30	44	30	30	32	39	32	35	36	22	28	36	34	32	32	48	40	38	31
Aug. 6-12	20	24	14	30	13	28	36	31	29	29	40	30	26	30	26	32	20	31	40	36	23	28	32	34	30	32	59	40	28	31
13-19	13	23	25	30	26	28	30	31	29	29	30	30	28	30	25	32	17	31	25	36	18	27	25	34	22	32	28	40	25	31
20-26	15	23	26	30	28	28	27	31	26	29	36	31	29	30	29	32	26	31	48	36	24	27	36	34	33	32	53	40	31	31
Aug. 27-Sept. 2	19	23	27	30	26	28	62	32	47	30	53	31	43	30	24	32	23	31	48	36	23	27	24	34	28	32	60	41	36	31
Sept. 3-9	31	23	36	30	29	28	24	32	19	29	26	31	27	30	33	32	38	31	29	36	24	27	23	33	29	32	48	41	28	31
10-16	18	23	17	30	16	28	30	32	30	29	51	32	29	30	12	31	21	30	43	36	16	27	24	33	23	31	76	42	26	31
17-23	15	23	40	30	47	28	55	32	47	30	46	32	47	30	42	31	40	31	44	37	26	26	31	33	37	32	50	42	42	31
Sept. 24-30	18	23	23	30	24	28	18	32	25	30	26	32	23	30	42	32	32	31	29	36	28	27	31	33	32	32	41	42	28	31
Oct. 1-7	21	23	22	30	16	28	13	31	17	29	23	32	18	30	21	31	10	30	34	36	12	26	25	33	20	31	39	42	19	31
8-14	23	23	29	30	23	28	51	32	43	30	42	32	38	30	29	31	39	30	46	37	39	26	42	33	39	31	50	42	39	31
15-21	30	23	6	29	7	27	24	32	14	29	14	32	13	30	9	31	6	30	17	36	16	26	20	33	14	31	16	42	14	31
22-28	38	23	10	29	3	27	10	31	14	29	14	31	10	29	27	31	15	30	15	36	44	27	34	33	27	31	24	42	18	30
Oct. 29-Nov. 4	8	23	15	29	24	27	41	31	33	29	35	31	30	29	18	31	20	30	31	36	22	26	25	33	23	31	36	41	27	30
Nov. 5-11	8	23	26	29	26	27	42	32	22	29	8	31	25	30	10	30	11	29	11	35	3	26	10	32	9	30	16	41	17	30
12-18	9	23	35	29	8	27	28	32	8	29	14	31	19	30	14	30	15	29	2	35	15	26	16	32	12	30	22	41	16	30
19-25	7	22	24	29	23	27	8	31	9	28	6	30	14	29	17	30	21	29	13	34	23	26	27	32	20	30	13	40	17	30
Nov. 26-Dec. 2	7	22	14	28	10	26	20	31	27	28	25	30	19	29	24	30	28	29	20	34	15	26	20	32	21	30	29	40	20	30
Dec. 3-9	10	22	14	28	2	26	9	31	5	28	12	30	8	29	17	30	7	29	21	34	18	26	20	32	17	30	13	40	13	30
10-16	10	22	28	28	38	26	16	31	26	28	21	30	26	29	22	30	26	29	27	34	26	26	30	32	26	30	26	40	26	30
17-23	5	22	10	28	14	26	16	30	9	28	12	30	12	28	17	30	7	28	6	34	16	26	16	32	12	30	8	39	12	29
Dec. 24-30	3	22	2	28	10	26	16	30	14	28	13	30	11	28	5	29	5	28	27	34	9	25	18	31	13	29	30	40	12	29

WEEKLY WEATHER REPORT, 1889.

VOL. VI. APPENDIX III.] [*Price* 1*s.*

Second Series.

TABLE I.—SHOWING FOR EACH DISTRICT, DURING THE TWELVE YEARS 1878–89, THE MEAN AGGREGATE NUMBERS OF RAINY DAYS FROM THE BEGINNING OF THE YEAR TO THE END OF EACH WEEK IN THE YEAR.

NUMBERS OF WEEKS.	Principal Wheat-producing Districts.						Principal Grazing, &c. Districts.						Channel Islands.	Means for the British Islands generally.
	0. Scotland, N.	1. Scotland, E.	2. England, N.E.	3. England, E.	4. Midland Counties.	5. England, S.	Means for Wheat-producing Districts.	6. Scotland, W.	7. England, N.W.	8. England, S.W.	9. Ireland, N.	10. Ireland, S.	Means for Grazing, &c. Districts.	
	Numbers of Days with Rain.													
1	5	4	3	4	4	4	4	5	4	5	5	5	5	5
2	10	7	7	8	7	7	7	8	7	8	9	8	8	9	8
3	15	10	10	10	10	9	10	12	10	11	13	12	12	13	11
4	20	13	13	14	13	13	13	16	14	15	17	16	16	17	15
5	25	17	17	18	17	17	17	21	18	19	22	20	20	21	19
6	30	21	21	22	21	21	21	26	23	24	27	25	25	26	23
7	35	25	25	26	25	25	25	31	27	29	32	31	30	32	28
8	40	29	28	29	29	29	29	35	31	32	36	34	34	37	32
9	45	33	32	33	32	32	32	38	35	36	40	39	38	41	35
10	50	37	36	37	35	35	36	43	39	40	45	42	42	45	39
11	54	40	39	39	37	37	38	46	41	42	48	45	44	48	41
12	59	44	43	43	40	40	42	50	45	46	53	49	49	52	46
13	64	48	46	46	43	43	45	53	48	50	58	53	52	57	49
14	67	51	49	49	47	46	48	57	52	53	61	57	56	61	52
15	71	55	53	53	50	50	52	60	55	57	65	60	59	64	56
16	76	59	57	57	54	54	56	64	58	60	68	64	63	68	60
17	79	62	61	61	58	58	60	67	62	65	73	68	67	73	64
18	83	66	64	65	61	61	63	71	65	68	77	72	71	76	67
19	88	69	68	68	64	64	67	75	69	71	81	75	74	79	71
20	92	73	71	72	68	67	70	79	72	74	85	79	78	83	74
21	96	77	75	75	72	71	74	82	75	78	88	83	81	86	78
22	100	80	77	78	75	73	77	86	79	82	92	87	85	90	81
23	104	83	81	82	79	77	80	89	82	86	96	91	89	94	85
24	108	86	84	85	82	80	83	93	85	89	100	94	92	98	88
25	111	89	87	88	85	83	86	96	88	92	103	98	95	102	91
26	114	92	89	90	88	85	89	99	91	95	107	101	99	104	94
27	118	96	92	93	91	88	92	103	95	99	112	105	103	108	98
28	123	100	96	97	95	92	96	108	99	103	117	109	107	112	102
29	127	104	100	101	99	96	100	112	103	107	121	113	111	116	106
30	131	108	104	105	103	99	104	116	107	111	126	118	116	120	110
31	135	111	107	108	106	102	107	119	110	114	130	121	119	123	113
32	139	116	110	111	109	105	110	123	114	118	135	125	123	127	117
33	143	120	114	115	112	108	114	127	118	122	139	129	127	131	121
34	147	123	118	119	115	111	117	131	121	125	143	133	131	136	124
35	152	128	122	123	119	115	121	135	125	129	148	137	135	140	128
36	156	131	125	126	123	119	125	139	128	133	153	141	139	144	132
37	160	135	128	129	126	121	128	143	132	136	157	145	143	147	136
38	164	138	131	133	129	125	131	147	135	140	161	148	146	151	139
39	169	142	135	137	132	128	135	151	140	144	165	153	151	157	143
40	175	146	139	142	136	132	139	155	144	148	170	156	155	161	147
41	179	150	143	145	140	136	143	159	148	152	174	160	159	166	151
42	184	154	148	149	144	139	147	163	152	156	178	164	163	170	155
43	189	158	151	153	148	143	151	166	156	161	182	168	167	176	159
44	195	163	156	158	153	148	156	171	161	167	188	173	172	181	164
45	200	166	159	161	156	152	159	175	165	171	192	178	176	187	168
46	205	171	164	166	160	155	163	179	169	176	197	182	181	192	172
47	210	175	168	170	164	159	167	184	173	180	202	186	185	197	176
48	215	179	172	175	168	163	171	188	177	185	207	191	190	202	181
49	221	184	176	179	172	167	176	192	181	190	212	196	194	207	185
50	227	187	180	183	176	171	179	197	186	194	217	200	199	212	189
51	232	191	184	187	179	175	183	201	190	199	222	204	203	218	193
52	237	195	188	191	182	178	187	205	194	203	226	209	207	222	197

61355. 350.—2/90. Wt. 36. E. & S.

TABLE II.—SHOWING FOR EACH DISTRICT, DURING THE TWELVE YEARS 1878–89, THE MEAN AGGREGATE AMOUNTS OF RAINFALL FROM THE BEGINNING OF THE YEAR TO THE END OF EACH WEEK IN THE YEAR.

Numbers of Weeks.	Principal Wheat-producing Districts.						Principal Grazing, &c. Districts.						Channel Islands.	Means for the British Islands generally.
	0. Scotland, N.	1. Scotland, E.	2. England, N.E.	3. England, E.	4. Midland Counties.	5. England, S.	Means for Wheat-producing Districts.	6. Scotland, W.	7. England, N.W.	8. England, S.W.	9. Ireland, N.	10. Ireland, S.	Means for Grazing, &c. Districts.		
	Rainfall in Inches.														
1	0·88	0·49	0·34	0·43	0·44	0·53	0·45	1·17	0·72	0·81	0·85	1·07	0·92	0·74	0·69
2	1·49	0·85	0·70	0·76	0·75	0·88	0·79	1·85	1·21	1·38	1·39	1·69	1·50	1·27	1·15
3	2·37	1·24	0·92	1·01	1·07	1·25	1·10	2·75	1·64	1·84	2·02	2·31	2·11	1·72	1·61
4	3·33	1·74	1·40	1·42	1·64	1·71	1·58	3·75	2·44	2·68	2·91	3·26	3·01	2·41	2·30
5	4·28	2·28	1·80	1·75	2·21	2·27	2·06	4·87	3·14	3·58	3·68	4·24	3·90	3·12	2·98
6	4·96	2·78	2·25	2·33	2·90	3·06	2·66	5·99	3·91	4·53	4·45	5·42	4·86	3·93	3·76
7	5·77	3·34	2·66	2·92	3·46	3·73	3·22	7·05	4·45	5·41	5·22	6·31	5·69	4·66	4·46
8	6·46	3·71	2·96	3·17	3·77	4·05	3·53	7·74	4·95	5·88	5·73	7·14	6·29	5·19	4·91
9	7·02	4·09	3·37	3·54	4·23	4·57	3·96	8·41	5·53	6·68	6·38	7·95	6·99	5·76	5·48
10	7·84	4·68	3·97	3·99	4·72	4·98	4·47	9·34	6·25	7·34	7·00	8·60	7·71	6·29	6·09
11	8·34	5·09	4·24	4·12	4·82	5·18	4·69	9·79	6·54	7·56	7·31	9·06	8·05	6·56	6·37
12	9·18	5·50	4·62	4·51	5·28	5·60	5·10	10·46	7·11	8·16	7·91	9·57	8·64	7·15	6·87
13	9·78	5·87	4·96	4·78	5·60	5·94	5·43	11·07	7·50	8·77	8·54	10·26	9·23	7·66	7·33
14	10·18	6·25	5·44	5·12	6·19	6·38	5·88	11·66	8·03	9·41	9·13	10·99	9·84	8·19	7·86
15	10·56	6·68	5·89	5·59	6·64	6·83	6·33	12·23	8·49	9·91	9·56	11·44	10·33	8·59	8·33
16	11·05	7·11	6·40	6·11	7·10	7·38	6·82	13·00	8·92	10·44	10·10	12·06	10·90	9·22	8·86
17	11·49	7·56	6·85	6·64	7·61	7·89	7·31	13·66	9·45	11·14	10·69	12·97	11·58	9·74	9·45
18	12·02	7·94	7·24	7·01	7·99	8·24	7·68	14·30	9·90	11·56	11·27	13·51	12·11	10·18	9·90
19	12·53	8·31	7·63	7·47	8·43	8·57	8·08	14·89	10·43	11·98	11·79	14·09	12·64	10·41	10·36
20	13·16	8·83	8·09	7·98	9·11	9·04	8·61	15·70	11·06	12·62	12·65	14·82	13·37	10·79	10·99
21	13·55	9·26	8·60	8·61	9·72	9·65	9·17	16·26	11·56	13·18	13·14	15·43	13·91	11·31	11·54
22	14·08	9·84	9·08	9·06	10·46	10·29	9·75	16·96	12·32	13·84	13·68	16·10	14·58	12·04	12·17
23	14·64	10·36	9·63	9·72	11·25	10·89	10·37	17·66	12·96	14·48	14·41	16·85	15·27	12·59	12·82
24	15·03	10·75	10·02	10·20	11·72	11·25	10·79	18·20	13·47	15·04	15·07	17·48	15·85	12·94	13·32
25	15·40	11·08	10·43	10·68	12·20	11·68	11·21	18·69	13·96	15·49	15·50	18·03	16·33	13·43	13·77
26	15·82	11·57	10·86	11·03	12·79	12·11	11·67	19·43	14·55	16·14	16·28	18·69	17·02	13·93	14·35
27	16·59	12·33	11·28	11·49	13·18	12·54	12·16	20·28	15·22	16·69	17·00	19·37	17·71	14·50	14·94
28	17·13	13·02	11·95	12·29	13·89	13·12	12·85	21·24	15·99	17·53	17·79	20·08	18·53	15·07	15·69
29	17·77	13·86	12·78	12·90	14·66	13·63	13·57	22·12	16·81	18·31	18·69	20·92	19·37	15·64	16·47
30	18·14	14·32	13·55	13·61	15·38	14·30	14·23	22·85	17·79	19·15	19·61	21·82	20·24	16·33	17·24
31	18·81	14·79	14·00	14·23	15·92	14·80	14·75	23·44	18·39	19·66	20·22	22·39	20·82	16·67	17·79
32	19·57	15·51	14·68	14·72	16·53	15·11	15·31	24·48	19·32	20·25	21·05	23·38	21·70	17·15	18·51
33	20·17	16·17	15·24	15·22	17·16	15·63	15·88	25·37	20·09	20·89	21·90	24·36	22·52	17·68	19·20
34	20·80	16·70	15·92	15·89	17·78	16·33	16·52	26·14	20·88	21·60	22·61	25·20	23·29	18·28	19·91
35	21·66	17·45	16·51	16·57	18·59	17·14	17·25	27·09	21·69	22·73	23·58	26·18	24·25	19·06	20·75
36	22·31	17·78	16·96	17·13	19·09	17·70	17·73	27·89	22·27	23·44	24·39	26·76	24·95	19·52	21·34
37	23·07	18·36	17·53	17·67	19·59	18·20	18·27	28·86	22·98	24·10	25·13	27·50	25·71	20·06	21·99
38	23·60	18·82	18·16	18·28	20·25	18·88	18·88	29·93	23·83	24·98	25·90	28·18	26·56	20·86	22·72
39	24·46	19·36	18·71	18·99	20·77	19·39	19·44	30·86	24·62	25·77	26·81	28·84	27·38	21·62	23·41
40	25·53	19·91	19·23	19·45	21·28	19·95	19·96	31·76	25·39	26·52	27·58	29·47	28·14	22·32	24·05
41	26·20	20·56	19·94	20·30	22·01	20·85	20·73	32·73	26·13	27·54	28·42	30·19	29·00	23·34	24·87
42	27·05	21·01	20·56	20·99	22·65	21·53	21·35	33·57	26·93	28·54	29·23	31·16	29·89	24·32	25·62
43	28·05	21·49	21·18	21·74	23·36	22·41	22·04	34·54	27·66	29·77	30·00	32·07	30·81	25·65	26·43
44	29·03	22·15	22·00	22·55	24·36	23·29	22·87	35·81	28·78	31·10	31·04	33·20	31·99	26·67	27·43
45	29·93	22·64	22·58	23·08	24·88	23·91	23·42	37·03	29·55	32·07	31·87	34·00	32·90	27·65	28·16
46	30·86	23·20	23·16	23·78	25·46	24·52	24·02	38·00	30·23	32·91	32·81	34·78	33·75	28·11	28·89
47	31·96	23·94	23·61	24·25	25·96	25·27	24·61	39·25	31·04	33·88	33·61	35·55	34·67	29·44	29·64
48	32·82	24·49	24·18	24·86	26·51	25·88	25·18	40·36	31·86	34·95	34·47	36·43	35·61	30·42	30·40
49	33·98	25·15	24·81	25·40	26·97	26·64	25·79	41·41	32·60	35·86	35·23	37·26	36·47	31·41	31·13
50	35·15	25·58	25·24	25·82	27·45	26·98	26·21	42·59	33·39	36·92	36·09	38·13	37·42	32·34	31·82
51	35·92	26·08	25·69	26·20	27·90	27·52	26·68	43·58	34·07	37·85	36·93	38·98	38·28	33·18	32·48
52	36·92	26·69	26·12	26·71	28·36	28·18	27·25	44·73	34·87	38·89	37·71	39·97	39·23	33·98	33·24

TABLE III.—SHOWING FOR EACH DISTRICT, DURING THE TWELVE YEARS 1878–89, THE MEAN AGGREGATE VALUES FOR ACCUMULATED HEAT ABOVE 42° F. FROM THE BEGINNING OF THE YEAR TO THE END OF EACH WEEK IN THE YEAR.

Numbers of Weeks.	0. Scotland, N.	Principal Wheat-producing Districts.						Principal Grazing, &c. Districts.						Channel Islands.	Means for the British Islands generally.
		1. Scotland, E.	2. England, N.E.	3. England, E.	4. Midland Counties.	5. England, S.	Means for Wheat-producing Districts.	6. Scotland, W.	7. England, N.W.	8. England, S.W.	9. Ireland, N.	10. Ireland, S.	Means for Grazing &c. Districts.		
	Day Degrees, above 42° Fahrenheit.														
1	7	6	7	10	12	13	10	10	11	18	15	21	15	26	13
2	11	11	10	12	16	18	13	16	15	27	24	35	23	40	18
3	19	20	17	17	24	25	21	27	22	41	38	55	37	58	29
4	23	25	21	21	30	32	26	33	27	54	46	72	46	74	36
5	30	33	29	30	40	44	35	42	37	70	60	93	60	95	48
6	35	39	35	38	48	54	43	51	44	86	71	112	73	115	58
7	40	47	45	50	62	70	55	62	55	107	86	135	89	139	72
8	49	62	59	65	78	86	70	73	66	124	103	156	104	160	87
9	57	75	70	78	94	102	84	85	78	144	120	180	121	181	103
10	65	91	89	101	117	126	105	100	94	167	140	206	141	209	123
11	74	106	105	124	140	149	125	115	110	190	160	230	161	234	143
12	80	117	118	144	160	171	142	129	124	213	178	256	180	257	161
13	90	133	133	168	186	198	164	146	143	238	199	285	202	286	183
14	106	157	156	200	222	236	194	172	171	269	228	318	232	320	213
15	125	182	178	231	255	271	223	201	199	305	262	357	265	358	244
16	149	213	208	269	294	312	259	235	233	344	298	398	302	400	281
17	172	245	240	313	338	358	299	268	269	388	337	442	341	449	320
18	203	287	280	367	394	415	349	313	315	436	385	494	389	503	369
19	236	334	326	425	456	479	404	362	365	495	437	554	443	567	424
20	276	384	379	491	523	553	466	418	426	563	493	629	504	640	485
21	327	450	443	570	602	640	541	488	500	644	563	698	579	725	560
22	376	515	514	658	685	733	621	556	575	728	635	778	654	815	638
23	424	581	587	749	774	832	705	629	655	819	711	864	736	908	721
24	482	663	674	844	871	934	797	713	747	918	799	960	827	1010	812
25	555	756	767	948	977	1047	899	813	852	1026	900	1068	932	1119	916
26	639	865	881	1077	1105	1181	1022	923	968	1146	1009	1185	1046	1242	1034
27	721	971	999	1205	1232	1311	1144	1032	1083	1269	1121	1304	1162	1368	1153
28	802	1075	1114	1332	1352	1440	1263	1134	1194	1384	1223	1414	1270	1493	1267
29	882	1177	1227	1458	1476	1574	1382	1238	1308	1508	1326	1530	1382	1621	1382
30	965	1278	1336	1582	1596	1705	1499	1343	1421	1629	1430	1646	1494	1750	1497
31	1049	1383	1452	1711	1722	1841	1622	1451	1538	1755	1540	1767	1610	1886	1616
32	1134	1489	1565	1838	1845	1977	1743	1558	1653	1878	1649	1884	1724	2021	1734
33	1218	1587	1676	1960	1963	2107	1859	1659	1765	1997	1756	1997	1835	2152	1847
34	1303	1691	1785	2083	2079	2238	1975	1846	1879	2120	1862	2113	1964	2285	1970
35	1378	1782	1889	2199	2189	2362	2084	1856	1983	2235	1960	2220	2051	2414	2068
36	1455	1872	1990	2311	2294	2481	2190	1949	2086	2344	2055	2325	2152	2538	2171
37	1527	1955	2082	2417	2394	2594	2288	2037	2181	2449	2144	2422	2247	2658	2268
38	1586	2025	2160	2511	2482	2696	2375	2112	2267	2548	2221	2508	2331	2775	2353
39	1636	2084	2226	2583	2552	2780	2445	2176	2338	2630	2288	2586	2404	2874	2425
40	1680	2138	2283	2647	2612	2855	2507	2233	2400	2704	2347	2656	2468	2966	2488
41	1730	2184	2331	2701	2663	2917	2559	2282	2451	2767	2394	2711	2521	3046	2540
42	1755	2224	2375	2749	2708	2972	2606	2327	2497	2826	2442	2766	2572	3121	2589
43	1782	2254	2409	2788	2744	3017	2642	2360	2532	2874	2477	2809	2610	3184	2626
44	1804	2279	2439	2824	2776	3059	2675	2390	2566	2921	2509	2849	2647	3246	2661
45	1824	2302	2464	2851	2803	3093	2703	2418	2593	2961	2539	2889	2680	3301	2692
46	1839	2319	2481	2870	2822	3119	2722	2436	2614	2996	2563	2923	2706	3347	2714
47	1850	2331	2494	2887	2839	3142	2739	2452	2631	3024	2580	2948	2727	3389	2733
48	1860	2343	2508	2902	2854	3162	2754	2468	2646	3050	2598	2973	2747	3425	2751
49	1865	2348	2515	2911	2864	3175	2763	2477	2655	3068	2608	2990	2760	3452	2762
50	1870	2354	2521	2918	2873	3189	2771	2485	2665	3087	2619	3007	2773	3479	2772
51	1877	2359	2526	2925	2881	3202	2779	2494	2675	3103	2629	3029	2786	3506	2783
52	1883	2366	2531	2930	2887	3212	2785	2503	2681	3122	2641	3046	2799	3531	2792

TABLE IV.—SHOWING FOR EACH DISTRICT, DURING THE TWELVE YEARS 1878–89, THE MEAN AGGREGATE VALUES FOR ACCUMULATED HEAT BELOW 42° F., FROM THE BEGINNING OF THE YEAR TO THE END OF EACH WEEK IN THE YEAR.

Numbers of Weeks.	Principal Wheat-producing Districts.						Principal Grazing, &c. Districts.						Channel Islands.	Means for the British Islands generally.
	0. Scotland, N.	1. Scotland, E.	2. England, N.E.	3. England, E.	4. Midland Counties.	5. England, S.	Means for Wheat-producing Districts.	6. Scotland, W.	7. England, N.W.	8. England, S.W.	9. Ireland, N.	10. Ireland, S.	Means for Grazing, &c. Districts.		
	Day-Degrees below 42° Fahrenheit.														
1	33	40	33	38	37	24	34	28	26	13	22	14	21	6	28
2	71	86	78	92	91	70	83	65	66	43	52	39	53	20	68
3	106	127	117	138	135	109	125	95	97	67	79	61	80	32	103
4	141	173	163	186	185	149	171	133	138	94	114	86	113	47	142
5	169	207	197	224	220	177	205	157	165	113	136	101	134	54	170
6	203	243	231	259	252	203	238	183	192	129	159	115	156	61	197
7	238	279	260	290	281	226	267	208	215	145	180	128	175	67	221
8	269	314	291	326	315	254	300	233	241	167	201	146	198	76	249
9	304	352	326	363	350	285	335	263	270	189	224	160	221	86	278
10	341	383	354	392	379	307	363	286	293	208	244	178	242	93	303
11	375	422	389	430	415	338	399	315	322	231	269	198	267	105	333
12	410	457	418	460	445	361	428	339	346	247	292	215	288	110	358
13	440	486	444	489	474	382	455	361	368	264	312	232	307	114	381
14	464	511	464	510	496	395	475	381	386	275	330	245	323	118	399
15	483	529	479	526	512	407	491	394	398	283	341	254	334	119	413
16	497	540	489	537	524	414	501	402	406	289	347	259	341	120	421
17	512	554	498	546	535	419	510	411	413	293	354	264	347	120	429
18	521	562	506	554	544	424	518	416	417	296	359	266	351	120	435
19	531	569	511	560	550	426	523	422	420	297	363	268	354	120	439
20	537	573	513	563	552	427	526	424	422	298	364	268	355	120	441
21	540	575	513	563	553	427	526	424	422	298	365	268	355	120	441
22	542	576	513	563	553	427	526	424	422	298	365	269	356	120	441
23	543	576	514	563	553	427	527	424	422	298	365	269	356	120	442
24	543	576	514	563	553	427	527	424	422	298	365	269	356	120	442
25	543	576	514	563	553	427	527	424	422	298	365	269	356	120	442
26	543	576	514	563	553	427	527	424	422	298	365	269	356	120	442
27	543	576	514	563	553	427	527	424	422	298	365	269	356	120	442
28	543	576	514	563	553	427	527	424	422	298	365	269	356	120	442
29	543	576	514	563	553	427	527	424	422	298	365	269	356	120	442
30	543	576	514	563	553	427	527	424	422	298	365	269	356	120	442
31	543	576	514	563	553	427	527	424	422	298	365	269	356	120	442
32	543	576	514	563	553	427	527	424	422	298	365	269	356	120	442
33	543	576	514	563	553	427	527	424	422	298	365	269	356	120	442
34	543	576	514	563	553	427	527	424	422	298	365	269	356	120	442
35	543	576	514	563	553	427	527	424	422	298	365	269	356	120	442
36	543	576	514	563	553	427	527	424	422	298	365	269	356	120	442
37	543	576	514	563	554	427	527	424	422	298	365	269	356	120	442
38	543	577	514	564	555	427	527	424	422	298	365	269	356	120	442
39	545	579	514	564	556	427	528	424	422	298	365	269	356	120	442
40	549	581	516	568	561	429	531	426	423	299	365	270	357	120	444
41	557	589	521	574	570	435	538	432	425	302	369	273	360	120	449
42	561	593	524	578	576	438	542	434	426	302	370	273	361	120	452
43	576	609	533	588	586	444	552	445	433	306	379	280	369	120	461
44	587	622	540	595	596	449	560	451	438	307	385	285	373	120	467
45	602	639	553	610	612	458	574	463	448	311	395	293	382	120	478
46	620	662	570	631	635	475	595	480	461	320	408	304	395	121	495
47	644	689	591	651	659	489	616	499	478	329	426	316	410	122	513
48	668	718	616	679	687	510	642	517	494	340	442	329	424	124	533
49	708	761	655	722	733	545	683	552	525	364	478	356	455	131	569
50	739	803	696	762	775	575	722	583	555	383	509	382	482	138	602
51	777	847	734	803	814	604	760	614	585	401	528	406	507	144	634
52	813	891	771	844	854	636	799	643	615	422	562	429	534	150	667

TABLE V.—SHOWING FOR EACH DISTRICT, DURING THE NINE YEARS 1881–89, THE MEAN AGGREGATE NUMBERS OF HOURS OF BRIGHT SUNSHINE FROM THE BEGINNING OF THE YEAR TO THE END OF EACH WEEK IN THE YEAR.

Numbers of Weeks.	0. Scotland, N.	Principal Wheat-producing Districts.						Principal Grazing, &c. Districts.						Channel Islands.	Means for the British Islands generally.
		1. Scotland, E.	2. England, N.E.	3. England, E.	4. Midland Counties.	5. England, S.	Means for Wheat-producing Districts.	6. Scotland, W.	7. England, N.W.	8. England, S.W.	9. Ireland, N.	10. Ireland, S.	Means for Grazing, &c. Districts.		
	Numbers of Hours of Bright Sunshine.														
1	5	10	6	10	9	9	9	6	7	11	10	14	10	17	10
2	12	19	13	19	17	18	17	13	14	21	17	25	18	33	18
3	18	33	20	27	25	25	26	22	22	33	27	36	28	49	27
4	23	46	31	43	36	37	39	30	33	43	37	49	38	64	39
5	32	60	40	58	48	49	51	39	42	58	48	62	50	83	51
6	42	77	54	76	64	62	67	55	57	74	64	79	66	102	67
7	57	94	68	91	78	76	81	69	71	91	81	96	82	122	82
8	74	115	84	106	94	92	98	86	87	111	98	116	100	144	99
9	96	134	102	127	112	111	117	101	107	132	111	134	117	170	117
10	116	155	124	150	134	132	139	123	126	157	131	161	140	196	140
11	140	182	151	179	160	161	167	146	151	190	155	190	166	239	167
12	162	212	177	207	187	189	194	171	174	224	178	219	193	272	194
13	188	235	200	237	211	218	220	200	200	254	206	251	222	311	221
14	221	267	235	279	247	255	257	241	237	294	240	293	261	354	259
15	256	295	257	310	272	283	283	273	264	330	272	330	294	394	289
16	285	323	280	340	299	313	311	303	293	368	303	364	326	436	319
17	321	362	309	376	333	349	346	336	326	409	336	401	362	482	354
18	358	396	346	417	371	391	384	376	366	451	374	446	403	533	394
19	393	439	384	463	414	436	427	417	407	501	415	488	446	597	437
20	433	484	428	508	454	480	471	459	453	551	456	534	491	653	481
21	476	535	476	559	496	526	518	512	503	597	503	584	540	704	529
22	511	582	516	614	541	576	566	554	549	645	546	627	584	760	575
23	553	624	553	662	579	619	607	597	592	691	582	667	626	805	617
24	594	666	594	711	626	668	653	644	641	751	623	716	675	869	664
25	637	713	632	748	664	709	693	694	685	803	671	766	724	923	709
26	672	762	673	803	712	764	743	736	729	855	700	804	765	984	754
27	707	797	716	857	760	815	789	777	772	905	731	840	805	1042	797
28	740	837	758	902	800	859	831	816	814	951	763	880	845	1097	838
29	768	874	794	946	837	899	870	854	850	991	792	913	880	1142	875
30	800	910	826	988	873	940	907	889	883	1036	823	951	916	1194	912
31	823	950	861	1027	912	984	947	929	925	1083	854	986	955	1258	951
32	846	982	896	1069	952	1029	986	965	959	1128	882	1022	991	1318	989
33	873	1014	928	1109	991	1072	1023	999	995	1172	911	1057	1027	1370	1025
34	901	1049	957	1146	1028	1111	1058	1031	1028	1220	940	1094	1063	1422	1061
35	927	1078	979	1179	1055	1144	1087	1055	1049	1252	960	1119	1087	1459	1087
36	956	1112	1006	1209	1083	1175	1117	1087	1079	1288	984	1151	1118	1497	1118
37	980	1136	1033	1245	1115	1211	1148	1117	1111	1326	1011	1184	1150	1546	1149
38	1001	1161	1056	1278	1144	1245	1177	1142	1140	1360	1036	1215	1179	1593	1178
39	1023	1187	1078	1306	1170	1274	1203	1169	1166	1389	1057	1240	1204	1626	1204
40	1044	1210	1102	1328	1190	1296	1225	1191	1186	1416	1077	1264	1227	1653	1226
41	1064	1229	1123	1353	1215	1323	1249	1212	1207	1443	1097	1290	1250	1686	1250
42	1080	1244	1139	1375	1236	1345	1268	1226	1222	1464	1112	1307	1266	1715	1267
43	1100	1263	1153	1395	1252	1363	1285	1243	1236	1481	1133	1326	1284	1737	1285
44	1112	1275	1163	1411	1266	1377	1298	1256	1248	1496	1148	1345	1299	1755	1299
45	1125	1290	1175	1429	1278	1389	1312	1267	1258	1509	1161	1359	1311	1771	1312
46	1132	1300	1184	1443	1290	1401	1324	1276	1268	1523	1175	1374	1323	1790	1324
47	1139	1312	1198	1456	1302	1413	1336	1287	1280	1536	1188	1389	1336	1803	1336
48	1146	1320	1206	1466	1312	1423	1345	1294	1287	1547	1196	1398	1344	1818	1345
49	1155	1331	1216	1476	1322	1433	1356	1305	1295	1562	1208	1410	1356	1830	1356
50	1158	1340	1226	1487	1331	1443	1365	1313	1301	1573	1217	1423	1365	1844	1365
51	1162	1346	1234	1496	1339	1452	1373	1319	1308	1582	1223	1433	1373	1854	1373
52	1166	1354	1240	1502	1345	1459	1380	1325	1313	1592	1230	1443	1381	1866	1381

TABLE VI.—SHOWING FOR EACH DISTRICT, DURING THE NINE YEARS 1881-89, THE MEAN PERCENTAGES OF THE POSSIBLE AMOUNT OF BRIGHT SUNSHINE FROM THE BEGINNING OF THE YEAR TO THE END OF EACH WEEK IN THE YEAR.

Numbers of Weeks.	Principal Wheat-producing Districts.						Principal Grazing, &c. Districts.						Channel Islands.	Means for the British Islands generally.
	0. Scotland, N.	1. Scotland, E.	2. England, N.E.	3. England, E.	4. Midland Counties.	5. England, S.	Means for Wheat-producing Districts.	6. Scotland, W.	7. England, N.W.	8. England, S.W.	9. Ireland, N.	10. Ireland, S.	Means for Grazing, &c. Districts.		
	Percentages of Possible Duration.														
1	11	22	12	18	17	17	17	12	13	20	19	26	18	30	18
2	12	19	12	17	15	16	16	13	13	19	17	23	17	28	17
3	13	23	13	16	15	15	16	14	14	19	16	22	17	28	17
4	12	23	14	19	16	16	18	14	15	19	17	22	17	27	18
5	13	23	15	20	17	17	18	14	15	20	18	22	18	27	18
6	14	24	16	22	18	17	19	16	17	21	18	23	19	27	19
7	15	24	17	22	19	18	20	17	17	21	20	23	20	28	20
8	16	25	18	22	19	18	20	18	18	22	20	24	20	28	20
9	19	25	19	22	20	19	21	18	19	23	20	24	21	29	21
10	20	26	20	23	21	20	22	20	20	24	21	25	22	29	22
11	21	26	21	25	22	22	23	21	21	26	22	26	23	32	23
12	21	27	22	25	23	23	24	22	22	27	22	27	24	33	24
13	22	27	23	26	23	24	25	23	23	27	23	28	25	33	25
14	24	28	24	28	25	25	26	25	24	29	24	30	26	35	26
15	24	28	24	29	25	26	26	25	24	30	25	30	27	36	27
16	25	28	24	29	25	26	26	26	25	31	26	31	28	36	27
17	26	29	24	29	26	27	27	26	26	32	26	31	28	37	28
18	26	29	25	30	27	28	28	27	26	32	27	32	29	38	29
19	27	30	26	31	28	29	29	28	27	33	28	33	30	39	30
20	27	31	27	32	28	30	30	29	28	34	28	33	30	40	30
21	28	31	28	32	29	31	30	30	29	35	29	34	31	41	31
22	28	32	28	34	30	31	31	30	30	35	30	34	32	41	32
23	28	32	28	34	30	32	31	31	30	36	30	34	32	42	32
24	29	32	29	35	30	33	32	31	31	36	30	35	33	42	33
25	29	32	29	34	31	33	32	32	31	37	31	35	33	42	33
26	29	33	29	35	31	33	32	32	32	37	31	35	33	43	33
27	29	33	30	36	31	34	33	32	32	38	30	35	33	43	33
28	29	33	30	36	32	34	33	32	32	38	30	35	33	44	33
29	29	33	30	36	32	34	33	32	32	38	30	34	33	44	33
30	28	33	30	36	32	34	33	32	32	38	30	35	33	44	33
31	28	33	30	36	32	35	33	32	32	38	30	35	33	45	33
32	28	33	30	36	32	35	33	32	32	38	30	35	33	45	33
33	28	33	30	36	32	35	33	32	32	39	30	35	34	45	34
34	28	33	30	36	33	35	33	33	32	39	29	35	34	45	34
35	28	33	30	36	33	35	33	32	32	39	29	34	33	45	33
36	28	33	30	36	32	35	33	32	32	39	29	34	33	45	33
37	28	33	30	36	32	36	33	32	32	39	29	35	33	45	33
38	28	32	30	36	33	36	33	32	32	39	29	35	33	46	33
39	28	32	30	36	33	36	33	32	32	39	29	34	33	46	33
40	28	33	30	36	32	35	33	32	32	39	29	34	33	45	33
41	28	32	30	36	32	36	33	32	32	39	29	34	33	45	33
42	28	32	30	36	32	35	33	32	32	38	29	34	33	45	33
43	28	32	29	36	32	35	33	32	32	38	29	34	33	45	33
44	27	32	29	36	32	35	33	32	31	38	29	34	33	44	33
45	28	32	29	36	32	35	33	31	31	38	29	34	33	44	33
46	27	31	29	35	32	35	32	31	31	37	28	34	32	44	32
47	27	31	29	35	32	34	32	31	31	37	28	34	32	44	32
48	27	31	29	35	31	34	32	31	30	37	28	33	32	44	32
49	27	31	29	35	31	34	32	31	31	37	28	33	32	43	32
50	27	31	28	35	31	34	32	31	30	37	28	33	32	43	32
51	27	31	28	34	31	33	31	30	30	36	28	33	31	43	31
52	26	31	28	34	31	33	31	30	30	36	28	33	31	43	31

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WEEKLY WEATHER REPORT, 1889.

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Second Series.

TABLE I.—SHOWING IN DEGREES FAHRENHEIT FOR EACH DISTRICT, AND FOR THE TWELVE YEARS 1878–89, THE MEAN TEMPERATURE OF THE AIR FOR EACH WEEK IN THE YEAR.

Numbers of Weeks.	Principal Wheat-producing Districts.						Principal Grazing, &c. Districts.						Channel Islands.	Means for the British Islands generally.
	0. Scotland, N.	1. Scotland, E.	2. England, N.E.	3. England, E.	4. Midland Counties.	5. England, S.	Means for Wheat-producing Districts.	6. Scotland, W.	7. England, N.W.	8. England, S.W.	9. Ireland, N.	10. Ireland, S.	Means for Grazing, &c. Districts.	
	Mean Weekly Values.													
1	38·7	37·6	38·6	38·1	38·3	40·1	38·5	39·3	39·7	42·6	40·8	42·9	41·1	45·1	39·8
2	37·4	36·1	36·1	34·6	34·7	36·3	35·6	37·8	37·2	39·4	39·1	40·9	38·9	42·0	37·3
3	38·6	37·9	37·7	36·2	36·9	37·8	37·3	39·2	38·8	40·6	40·2	41·8	40·1	42·9	38·7
4	37·8	36·4	36·1	36·1	36·2	37·5	36·5	37·6	37·3	39·9	38·7	40·8	38·9	42·2	37·7
5	38·9	38·7	38·4	38·2	38·6	39·7	38·7	40·1	39·5	41·8	40·7	42·6	40·9	44·0	39·8
6	38·2	38·0	38·1	38·5	39·0	39·9	38·7	39·3	39·2	42·0	40·5	42·8	40·8	43·7	39·8
7	38·2	38·7	39·4	39·3	40·1	40·9	39·7	40·1	40·4	42·6	41·2	43·1	41·5	44·9	40·6
8	38·8	39·0	39·5	38·9	39·1	40·0	39·3	40·2	40·0	41·3	41·5	42·4	41·1	43·6	40·2
9	38·2	38·1	38·7	38·3	38·9	39·7	38·7	39·3	39·4	41·3	41·1	43·1	40·8	43·6	39·8
10	37·9	39·1	40·1	40·9	40·9	41·9	40·6	40·5	40·8	42·6	41·9	43·4	41·8	44·9	41·2
11	38·5	38·7	39·2	39·4	39·7	40·7	39·5	40·0	40·0	41·6	41·0	42·8	41·1	43·9	40·3
12	38·0	38·9	39·6	40·4	40·4	41·6	40·2	40·3	40·5	42·6	41·2	42·9	41·5	44·5	40·9
13	39·0	40·0	40·6	41·3	41·6	42·7	41·2	41·1	41·4	43·3	42·0	43·6	42·3	45·5	41·8
14	40·9	41·6	42·1	43·5	43·7	44·7	43·1	42·7	43·2	44·6	43·2	44·6	43·7	46·3	43·4
15	41·8	42·7	42·7	43·8	44·1	45·1	43·7	44·1	44·2	45·5	44·8	45·8	44·9	47·1	44·3
16	43·1	44·3	44·7	45·6	45·6	46·6	45·4	45·4	45·4	46·4	45·9	46·9	46·0	47·9	45·7
17	43·0	44·3	44·9	46·4	46·5	47·6	45·9	45·2	46·0	47·8	46·2	47·3	46·4	48·9	46·2
18	44·7	46·3	46·3	48·0	48·1	49·3	47·6	47·2	47·5	48·5	47·8	49·0	48·0	49·8	47·8
19	44·9	47·3	47·5	49·1	49·6	50·4	48·8	48·0	48·6	50·2	48·5	50·0	49·1	51·1	49·0
20	46·3	48·2	49·1	50·8	51·1	52·5	50·3	49·5	50·4	51·6	49·7	51·4	50·5	52·4	50·4
21	48·7	51·2	51·1	53·2	53·1	54·4	52·6	52·0	52·6	53·6	51·9	53·3	52·7	54·0	52·7
22	48·0	51·1	52·1	54·5	53·8	55·3	53·4	51·7	52·7	54·0	52·3	53·3	52·8	54·8	53·1
23	48·6	51·4	52·5	54·9	54·7	56·1	53·9	52·4	53·5	55·1	52·9	54·3	53·6	55·4	53·8
24	50·2	53·7	54·5	55·5	55·9	56·6	55·2	54·0	55·1	56·0	54·5	55·7	55·1	56·6	55·2
25	52·3	55·3	55·2	56·8	57·2	58·1	56·5	56·3	56·9	57·5	56·5	57·5	56·9	57·5	56·7
26	54·2	57·6	58·2	60·4	60·3	61·1	59·5	57·7	58·6	59·1	57·6	58·7	58·3	59·5	58·9
27	53·7	57·2	58·9	60·3	60·0	60·6	59·4	57·5	58·4	59·4	58·0	59·0	58·5	60·1	59·0
28	53·6	56·8	58·5	60·1	59·1	60·5	59·0	56·6	57·8	58·6	56·5	57·7	57·4	59·8	58·2
29	53·4	56·6	58·1	60·1	59·7	61·1	59·1	56·8	57·8	59·7	56·7	58·6	57·9	60·3	58·5
30	53·9	56·5	57·6	59·6	59·3	60·7	58·7	57·1	58·1	59·4	56·8	58·6	58·0	60·5	58·4
31	54·0	57·0	58·5	60·5	60·0	61·6	59·5	57·4	58·8	60·0	57·8	59·2	58·6	61·3	59·1
32	54·1	57·1	58·2	60·2	59·5	61·4	59·3	57·2	58·4	59·6	57·4	58·7	58·3	61·3	58·8
33	53·7	56·9	57·8	59·4	58·9	60·5	58·5	56·5	58·0	59·0	57·2	58·2	57·8	60·8	58·2
34	54·2	56·8	57·6	59·5	58·6	60·7	58·6	56·7	58·3	59·6	57·2	58·5	58·1	61·0	58·4
35	52·7	55·0	56·8	58·6	57·7	59·8	57·6	55·4	56·8	58·3	55·9	57·4	56·8	60·4	57·2
36	53·0	54·8	56·4	58·1	57·0	59·9	57·0	55·3	56·7	57·6	55·5	57·0	56·4	59·7	56·7
37	52·2	53·9	55·1	57·1	56·0	58·2	56·1	54·4	55·7	57·0	54·7	55·8	55·5	59·1	55·8
38	50·4	51·9	53·1	55·2	54·5	56·6	54·3	52·6	54·3	56·2	52·9	54·4	54·1	58·6	54·2
39	48·7	50·0	51·4	52·2	51·7	53·9	51·8	51·1	52·1	53·7	51·6	53·1	52·3	56·2	52·1
40	47·8	49·2	49·9	50·6	49·9	52·2	50·4	49·8	50·6	52·3	50·3	51·7	50·9	55·1	50·7
41	46·3	47·2	48·1	48·9	47·7	49·9	48·4	48·0	48·8	50·4	48·0	49·3	48·9	53·5	48·7
42	46·3	46·9	47·7	47·9	47·1	49·3	47·8	48·1	48·3	50·2	48·6	49·8	49·0	52·7	48·4
43	43·6	43·6	45·3	46·0	45·3	47·4	45·5	45·0	46·1	48·3	45·4	46·7	46·3	51·1	45·9
44	43·2	43·5	45·1	45·8	45·1	47·3	45·4	45·2	46·0	48·3	45·7	47·0	46·4	50·8	45·9
45	42·7	42·9	43·9	43·9	43·7	45·5	44·0	44·4	44·9	47·0	44·9	46·3	45·5	50·0	44·8
46	41·7	41·0	41·9	41·9	41·7	43·4	42·0	42·3	43·0	45·5	43·4	45·4	43·9	48·2	43·0
47	40·2	39·7	40·9	41·5	40·8	43·2	41·2	41·5	42·1	44·7	42·1	43·8	42·8	47·9	42·0
48	40·0	39·5	40·2	39·9	40·1	41·7	40·3	41·6	41·8	44·1	42·1	43·7	42·7	46·8	41·5
49	37·2	36·8	37·3	37·1	36·8	39·0	37·4	38·5	39·0	41·4	38·7	40·8	39·7	44·8	38·6
50	38·5	36·8	37·2	37·6	37·5	39·9	37·8	38·9	39·2	42·0	39·4	40·9	40·1	44·9	39·0
51	37·9	36·9	37·4	37·4	37·7	39·5	37·8	38·8	39·0	41·9	39·7	40·8	40·0	45·0	38·9
52	38·2	36·9	37·4	37·2	37·3	39·3	37·6	39·3	38·9	41·8	39·9	41·7	40·3	44·6	39·0

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